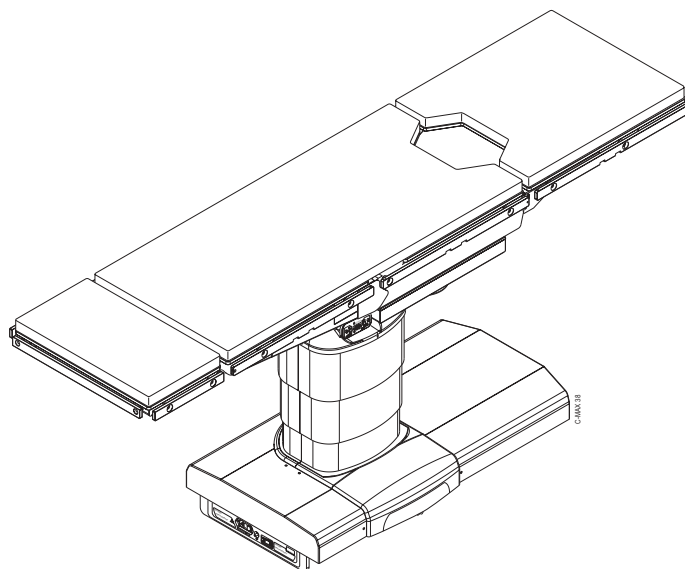




Operating table

Operator Manual

C-MAX/NU/11/02

Edition 01F

Ref. 022710201

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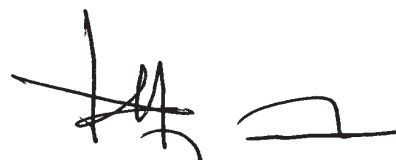
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Dear customer,

Thank you for choosing the C-MAX operating table, newly proposed by **FHSurgical** to fully meet your needs.

Please read the instructions carefully to ensure optimum efficiency and safety when using the C-MAX operating table.



Philippe DAURY, President.

FHSurgical
645, rue des Châtaigniers, BAT 405 - B2,
F 45770 SARAN

QUALITY REQUIREMENTS

Company certification and applicable standards

The **FHSurgical** quality system is certified :

ISO 9001 (2000)

ISO 13488 (2001)

Certificate N° 1605/9001/13488/1

By the G-MED (Medical Device Assessment Body) for the manufacturing, sales, installation and after sales service for operating tables, table tops, trolleys for transfert system, and for their extensions and accessories.

Note : the ISO 13488 is the international standart dedicated to the medical devices manufacturers.

This table is designed in compliance with international standards **IEC 601-1 (EN 60-601-1)** electromedical devices, Part 1: general safety rules and IEC 601-2-46 "electromedical devices, Part 2 : specific safety rules applicable to operating tables", and **IEC 601-1-2 (EN 60-601-1-2)** concerning electromagnetic interference.

CE and UL Marking

The **CE** marking applied to the table (only for CMAX version 220Volts) is covered by a statement issued by **FHSurgical** , and a registration with the l'AFSSAPS (French Agency governing the Sanitary Safety of Health Products).

The **UL2601 certification** applied to the table (only for CMAX version 110Volts) has been delivered by Underwriters Laboratory, to **FHSurgical**. **FILE : N° E237575**

GUARANTEE

FHSurgical warrants the equipment against all defects of materials or manufacture for 12 months after delivery. The warranty covers only equipment supplied by **FHSurgical**.

It is limited to replacement of parts acknowledged to be defective. The labour, travel, living and insurance expenses of the crew replacing parts acknowledged to be defective are incumbent on the customer.

Title to replaced parts reverts to **FHSurgical** and they must be returned to it within one month of replacement; otherwise **FHSurgical** reserves the right to bill the value of the replaced part.

Warranty repairs and displacements do not extend the initial warranty period.

This guarantee does not cover the normal wear and tear of parts, nor does it apply to consumables (in particular bulbs, fuses, neon tubes, UV tubes, semi-conductors, valves and diodes, rubber seals, mattress, cushions, etc.). In order to benefit from the terms of this guarantee, the Purchaser must inform us of any defect by letter or by telex followed by letter of confirmation within three days of discovering the defect.

The Buyer must submit to **FHSurgical** all evidence that the defect is incumbent on **FHSurgical** and afford **FHSurgical** every facility to investigate the same.

The customer may buy spare parts simultaneously with the equipment.

FHSurgical may use the Buyer's spare parts subject to replacement thereof.

On request, **FHSurgical** will supply the principal electrical diagrams and lists of parts to duly accredited technicians.

The warranty determines if the supplies are altered or repaired by the Buyer or other parties without **FHSurgical**'s prior written consent.

No damages are recoverable under this warranty, which is personal to the Buyer and determines forthwith if it disposes of the equipment.

The warranty does not cover:

- incidents caused by fortuitous events or force majeure as described in article X of the general conditions of sales,
- repair or replacement required by normal wear of the equipment,
- damage or accidents due to the customer's act such as negligence, lack of supervision, faulty connection and use/procedures, disregard of the operating or maintenance instructions or improper use due inter alia to overload of any kind.

3 - Safety instructions :

3.1 Summary of warnings :

-  During table top operation, several possible pinch points are generated and could result in medical staff or patient injuries. Cutting or crushing injury may occur if any part of a patient or staff member is caught in a pinch point. People involved must be aware of these risks and review drawings of FIG 3.1, 3.2. (page 8)
-  If an antistatic path is necessary, we recommend that you only use recommended antistatic pads, specifically designed for this product and on which the patient must be in direct contact.
The operating table must be set on an antistatic floor or connected to an equalization device (equipotential connector (page 13).
-  In case of use of other equipments near the table, verify that these equipments respect the Electromagnetic compatibility medical standards (page 13).
-  When using high frequency surgical equipment such as defibrillators or defibrillator-monitors, carefully follow the manufacturer's instructions (page 13).
-  The table is earthed when table is connected to mains by power cord with earth (page 13).
-  Where the integrity of the external Protective Earth Conductor arrangement is in doubt, equipment shall be operated from its Internal Electrical Power Source (page 13).
-  Table must be equipped with 2 flame retardant lead sealed batteries 12V, available through the FHSurgical network (page 13).
-  Do not remove leg plate while patient is not correctly positioned .
Patient's torso and buttocks must be firmly held in position by the operating table seat plate and his legs supported by additional leg supports correctly attached to seat plate side rails (refer to leg support's instructions for use). (page 19)
-  When leg section is not correctly secured, corresponding LCD angle value does not appear (FIG.5.3) (page 19).
-  Do not use the table in the presence of flammable anesthetics. (page 21)
-  Prior to all surgical procedures, ensure that battery charge is sufficient for anticipated duration. (page 21)
-  Ensure socket cap covers the socket properly. (page 25)
-  The plug is equipped with a safety lock feature : do not pull on hand control cord to disconnect it from the table as this will damage it. (page 25)
-  Only FHSurgical representatives are authorised to use this socket. Otherwise, FHSurgical cannot be held responsible and guarantee does not apply. (page 25)
-  If the hand control unit and the foot pedal used at the same time, the hand control unit has priority (page 25).
-  Hand control "OFF" key also switches off the foot control. (page 25)
-  The values in the LCD display are given as guidelines. Their accuracy may vary according to environmental conditions (altitude, hydrometry, temperature etc.).
Take care to check patient positioning visually. (page 27)
-  Table top movements can not be operated when table is unlocked.
Lock table before positioning patient on the table and before pressing any table top movement key. (page 28)

-  In case of table displacement, with patient on it, table top must be in a flat position, centered in relation to table column.
Prior to this, the user will have to remove any obstacles that might stand in the way and move table with care (page 28).
-  Since table is locked, ensure table is stable according floor flatness. Relocate table if required (page 29).
-  The information displayed on LCD are not reversed (page 29).
-  When table is turned off, table memorizes orientation status.
Before any new positioning, ensure table is correctly configured in relation to patient orientation function. (page 29)
-  When REVERSE ORIENTATION is activated, level function does not include back section for compliance with anesthesia procedure. (page 31)
-  In reverse configuration, flex and reflex function are not available for patient safety reasons. «REV. ORIENT.» appears at the LCD message window. (page 31)
-  Caution : These ALS suggested alternative table movements do not take into account the type of surgery being conducted or the environment (e.g. : other equipment closeby) and might not be compatible with the surgical procedure in process.
To avoid any risk and before carrying out the suggested alternative, the user should evaluate feasibility. (page 32)
-  Use exclusively recommended FUSION pads. (page 34)
-  Ensure that it has been correctly secured, by pulling lightly double top up. (page 35)
-  Do not exceed 600 lbs patient weight using standard positions specified. (chap.7 - page 37)
-  If a heavy patient (500-600 lbs) is placed on the tabletop in full slide towards patient head end, caution should be used to avoid bumping the table, which can cause the table to tip. If chest compressions or other forces need to be applied on a 500-600 lbs patient, the patient should be centered over the column. (page 37)
-  The positionings described below are given as an example only. They do not replace instructions given by the health care professionals in charge of the patient to prevent any patient injury.
Accessories here-below are not systematically represented. (page 37)
-  Possible patient or user injury may result from using accessories manufactured and sold by other companies. (page 37).
-  When override hand control is in use, primary hand control automatically shuts off, after 1 second. (page 51)
-  In override mode, no sensor is available (A.L.S. off) : when articulating table top, take care to avoid section collision with table top (e.g. : when sliding), with table base or with the floor. (page 51)
-  In override mode, lock table before articulating table top. (page 51)
-  There is no reverse orientation key in override mode. Controls are configured in normal orientation.
When table is turned to back up mode, table does not memorise orientation status.
Before articulating table top, take into account patient orientation. If patient is in Reversed Orientation, change TREND selection to REV. TREND., BACK SECTION to LEG SECTION, LEFT TILT to RIGHT TILT, and vice versa. (page 51)
-  Take care not to jam cable when replacing drawer. (page 51)
-  Before any cleaning operation :
Switch off the table
Disconnect the control unit
Fit watertight covers on each connector. (page 52)
-  Do not immerse hand control unit in liquid. (page 52)
-  Do not spray solutions in direction of connectors. (page 52)
-  Do not forget to clean wheels and floor blocks. (page 53)
-  Do not use any oxidizing products with chloric derivative base such as bleach, or oxygenic derivatives such as peracetic acid. (page 53)

3.2 Pinch points :

 ***During table top operation, several possible pinch points are generated and could result in medical staff or patient injuries.***

Cutting or crushing injury may occur if any part of a patient or staff member is caught in a pinch point. People involved must be aware of these risks and review drawings of FIG 3.1 and 3.2.

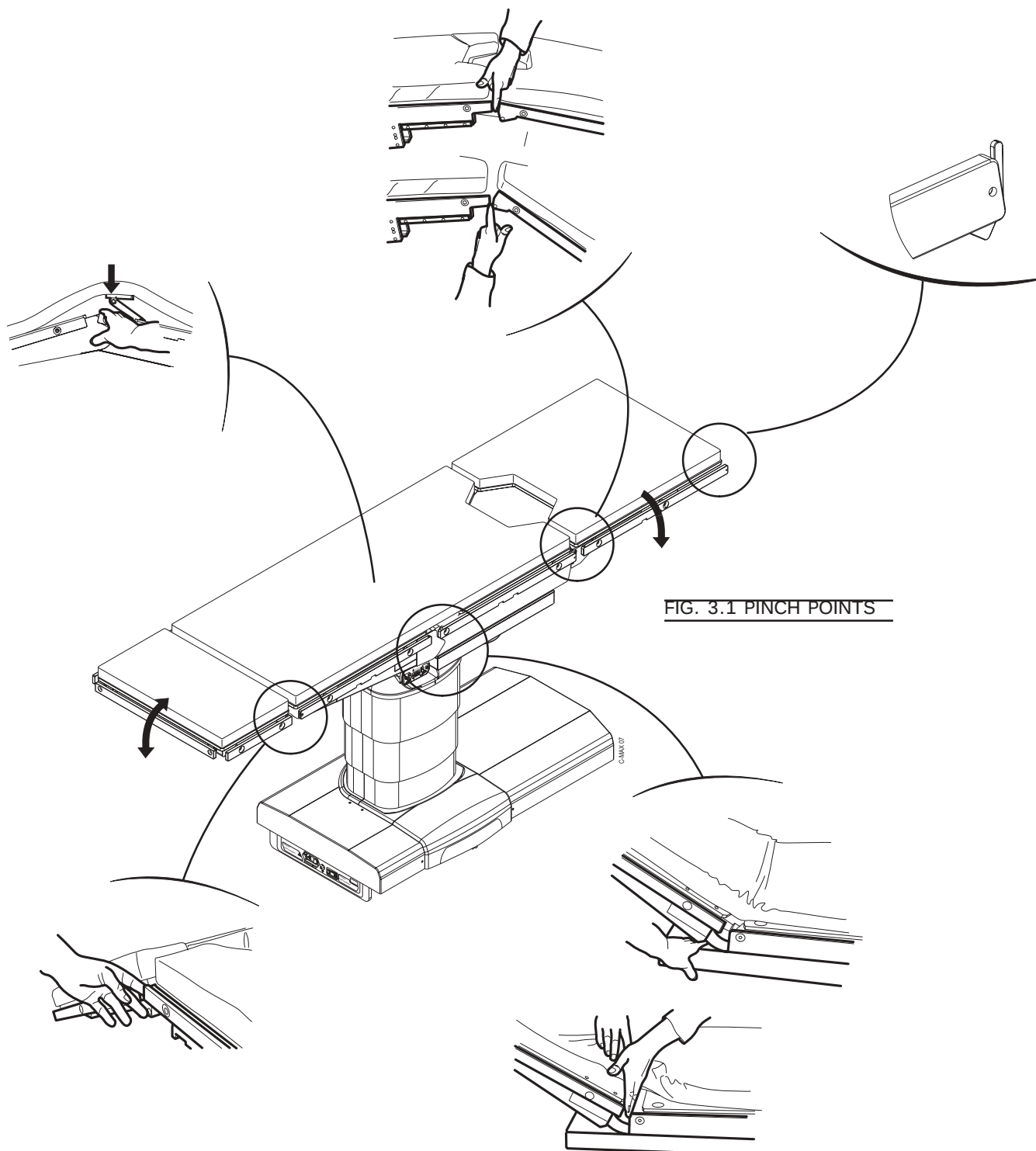
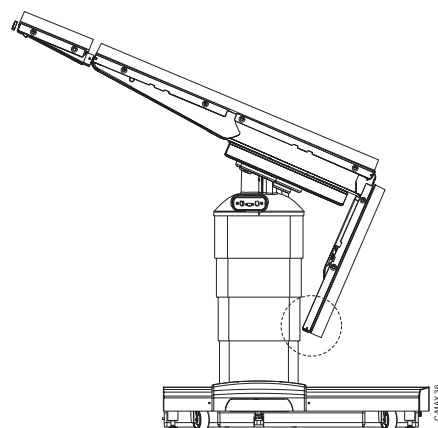
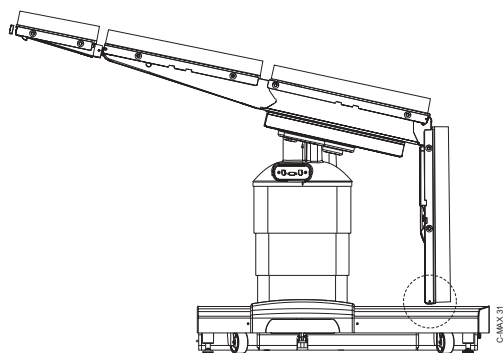
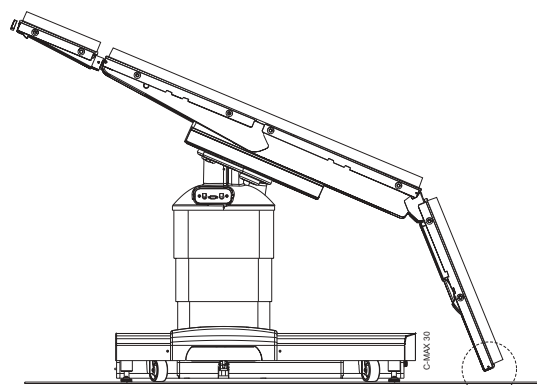
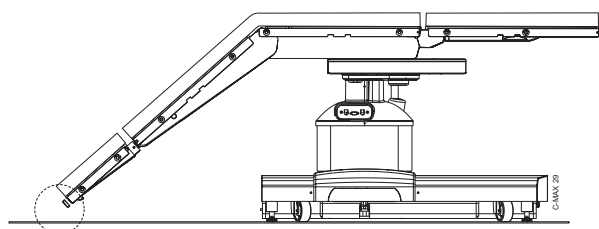


FIG. 3.2 PINCH POINTS



3.3 Symbols :

	<u>Label</u> : Warning : consult the accompanying documents		Height up (page 29)
IPX 4	<u>Label</u> : Protected against water splashes		Height down (page 29)
	<u>Label</u> : Type B appliance : Protection against electric shocks		Trendelenburg (page 29)
	<u>Manual</u> : Remarks are aimed at attracting the reader's attention to particular points		Reverse trendelenburg (page 29)
	<u>Manual</u> : Not allowed		Tilt left (page 30)
	<u>Power panel</u> : Equipotentiality plug		Tilt right (page 30)
	<u>Power panel</u> : Battery charge/discharge status (page 21)		Back up (page 30)
	<u>Power panel</u> : Table works on batteries (page 21)		Back down (page 30)
	<u>Power panel</u> : Table works on mains (page 21)		Leg up (page 30)
0 / I	<u>Power panel</u> : Mains off / Mains on (page 20)		Leg down (page 30)
	Stop function (page 28)		Slide head (page 30)
	Auto limit sensors (page 32)		Slide foot (page 30)
	Lock table on floor (page 28)		Kidney up (page 30)
	Floor lock (page 28)		Kidney down (page 30)
	Unlock table (page 28)		Flex (page 31)
	Patient orientation (page 29)		Reflex (page 31)
	Level (page 31)		

3.3 Symbols :

	SUB-D socket for E-SERVE: for connecting exclusively FHSurgical computer or modem (diagnostics) (page 25)
	Socket 1 : for plugging in hand control (page 25)
	Socket 2 : for plugging in optional foot control (page 25)

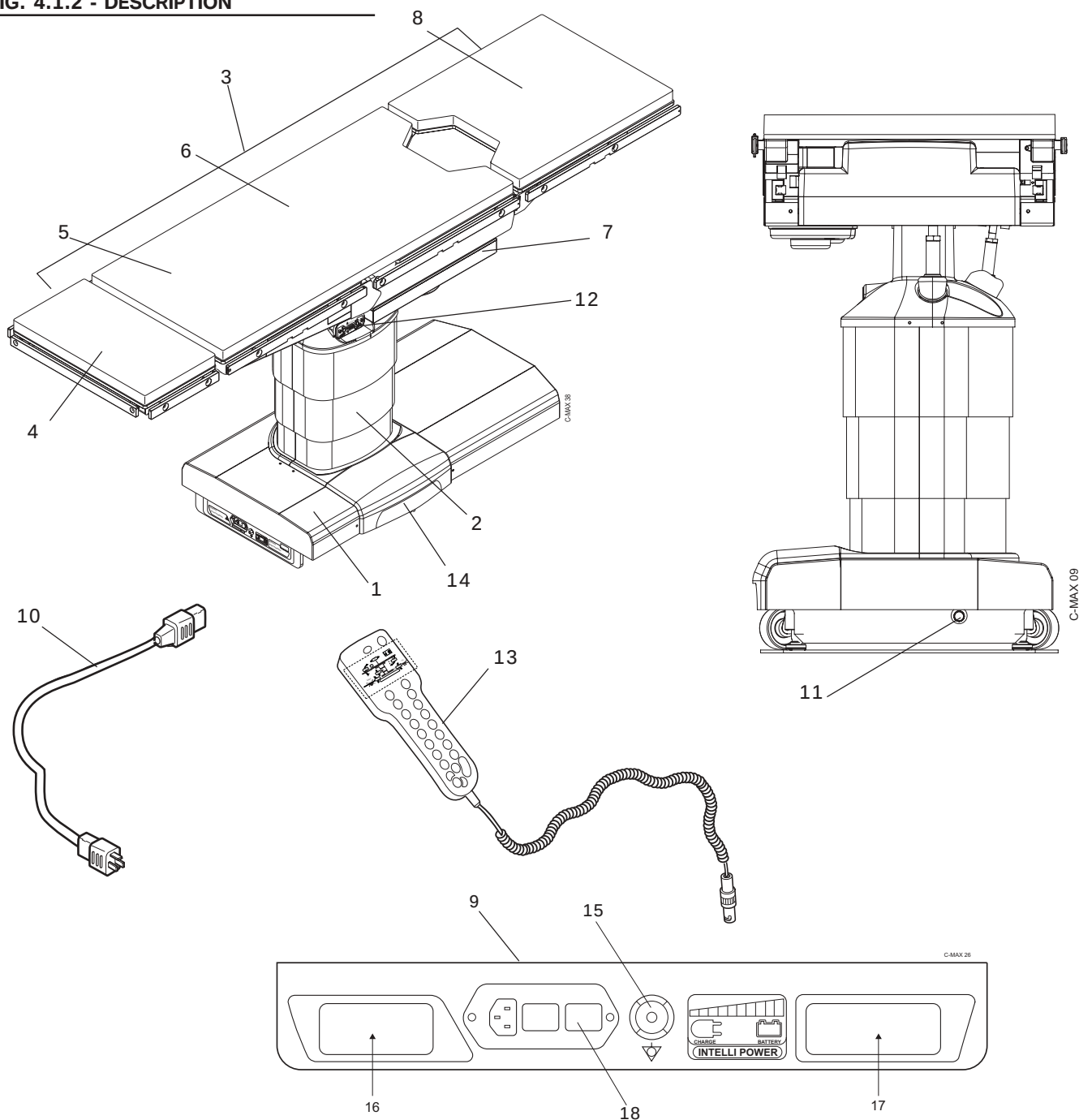
	<u>Hand control</u> : Table works on batteries. Battery status full charge / half charge / discharge (page 21)
	<u>Hand control</u> : Status : table works on mains (page 21)
	<u>Hand control</u> : Status : table lock / table unlock (page 21)
	Maintenance key (page 57)

4. GENERAL DESCRIPTION :

4.1.1 CLASSIFICATION

CLASS 1 equipment
Type B equipment
Splash-proof equipment (IPX4)
Equipment not suitable for use in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide
Intermittent operation 3mn/h

FIG. 4.1.2 - DESCRIPTION



- 1 - Mobile base
- 2 - Column
- 3 - Table top
- 4 - Headrest
- 5 - Back section
- 6 - Kidney elevator
- 7 - Sliding seat section
- 8 - Leg section

- 9 - Power panel
- 10 - Power Cord
- 11 - Battery fuse holder
- 12 - Connection panel
- 13 - Hand control
- 14 - Override
- 15 - Equipotentiality plug
- 16 - Electrical characteristics label

- 17 - Identification label
- 18 - Primary fuses

4.1.2 - Description :

C-MAX is a mobile, motorized electro-hydraulic operating table.

Equipped with a large sliding table top (ZIP SLIDE pending patent), C-MAX provides unrestricted radiological access without patient reversing.

C-MAX is suitable for most surgical procedures and is designed to support patient weighing up to 600 lb (270 kg) using standard positions specified chapter 7.

The unique concept of its power supply (INTELLI POWER pending patent) allows the table to be either battery powered or electric powered.

Movements are executed through wired hand control (13) or optional foot control. Also, C-MAX is voice and touch screen control compatible.

C-MAX operating table is comprised of a mobile base (1), a column (2), and a multi-section tabletop (3) which is divided into 5 sections :

- a headrest (removable) (4)
- a back section (5)
- a kidney elevator (6)
- a sliding seat section (7)
- a leg section (removable) (8)

Back, kidney, seat and leg sections movements are motorized.

Headrest adjustment is manual.

C-MAX smart electronic design allows diagnostic and servicing to be performed from a distance by FHSurgical's specialists (E-SERVE compatible).

Built-in sensors provide safety information to the users. These sensors prevent sectional conflict and detect accidental table collisions with external obstructions (AUTO LIMIT SENSORS pending patent).

Electrical power supply :

Input for CMAX 110 Volts : 100/120 Volts (shunt inside) 50-60 Hz 1 Phase 380 VA max.

A 3.7-meter long power cord hospital grade (10) is provided to connect the table to the mains.

Primary protection by 2 fuses : T 6,3 AH (18)

Input for CMAX 220Volts : 220/230 Volts (shunt inside) 50-60 Hz 1 Phase 380 VA max.

A 5-meter long power cord hospital grade (10) is provided to connect the table to the mains.

Primary protection by 2 fuses : T 4 AH (18)

Mode of operation : 3 min / hour intermittent use

Insulation : C-MAX is equipped with a equipotentiality plug (15) (male connector, DIN42801) at the power panel (9) to prevent electric shock. Female connector not provided by FHSurgical.

5.5 - Connecting and disconnecting mains power cord :



If an antistatic path is necessary, we recommend that you only use recommended antistatic pads, specifically designed for this product and on which the patient must be in direct contact.

The operating table must be set on an antistatic floor or connected to an equalization device (equipotential connector).



In case of use of other equipments near the table, verify that these equipments respect the Electromagnetic compatibility medical standards



When using high frequency surgical equipment such as defibrillators or defibrillator-monitors, carefully follow the manufacturer's instructions.



The table is earthed when table is connected to mains by power cord with earth.

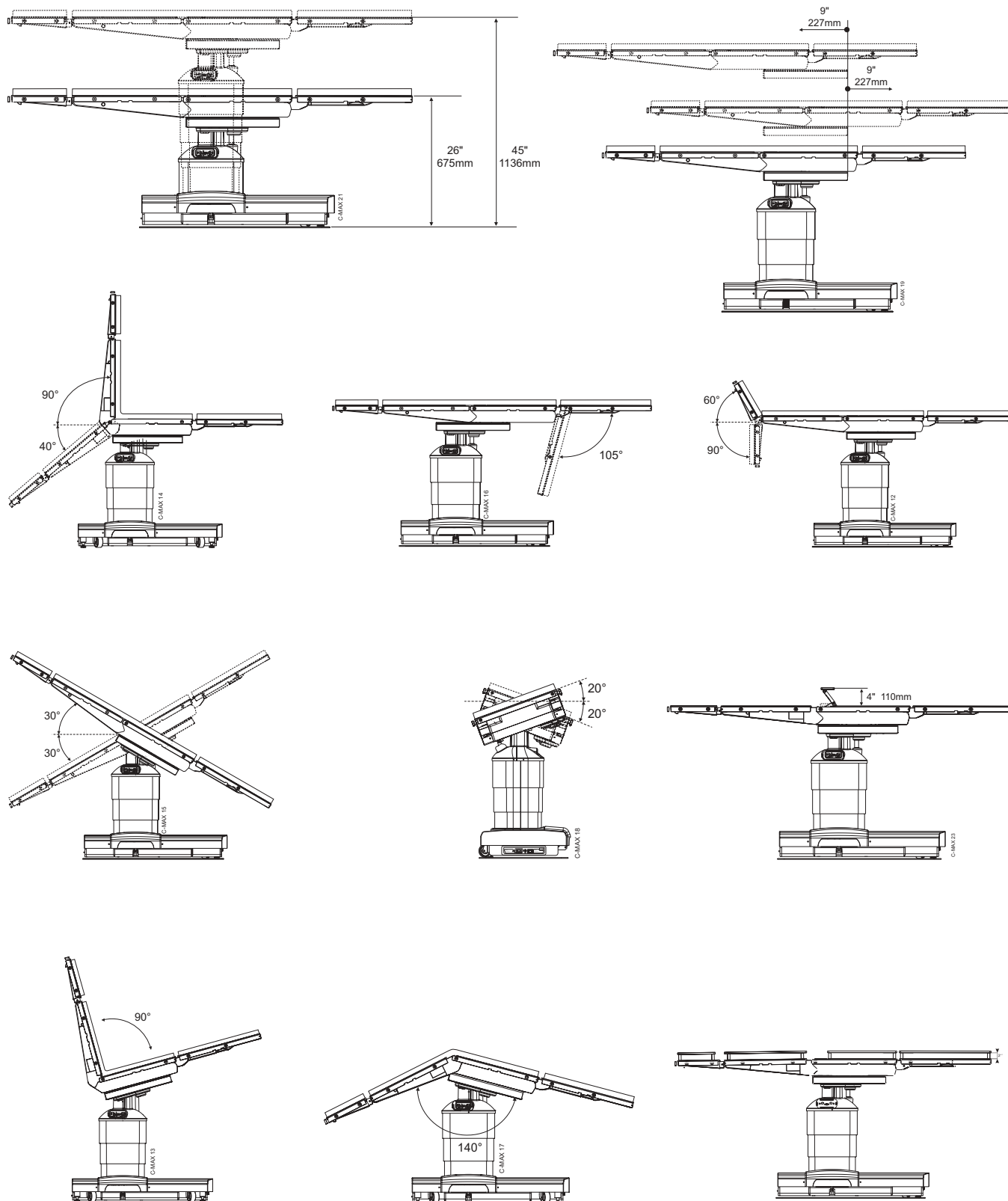


Where the integrity of the external Protective Earth Conductor arrangement is in doubt, equipment shall be operated from its Internal Electrical Power Source.



Table must be equipped with 2 flame retardant lead sealed batteries 12V, available through the FHSurgical network.

FIG. 4.2 - MOUVEMENT RANGE



- Up / Down	:	45'' - 1136 mm / 26'' - 675 mm
- Lateral tilt left / right	:	20°/20°
- Trendelenburg / reverse Trendelenburg	:	30°/30°
- Back section Up / Down	:	90°/40°
- Leg section Up / Down	:	0°/105°
- Kidney elevator	:	4'' - 110 mm
- Slide Head / Foot	:	9'' - 227 mm / 9'' - 227 mm
- Flex / reflex	:	140° / 90°
- Headrest adjustment is manual : Up/ Down	:	60° / 90°
- Tabletop dimensions :	Length	81'' - 2055 mm
	Width (access rails)	22'' - 550 mm
- Table weight	:	Approximatively 560 lb (250 kg)
- Patient weight capacity	:	600 lb (270 kg), for standard positions defined on chapter 7.

Technical drawing of a 4-bay metal building section. The drawing shows the internal structure with dimensions in inches and millimeters. The total width is 81" (2055mm). The bay widths are 13" (325mm), 22" (570mm), 22" (550mm), and 24" (610mm). The height is 22" (550mm). The drawing includes details of the roof and wall panels, insulation, and structural components. A note on the right indicates 'C-MAX 32a'.

Figure 1 consists of two diagrams illustrating the layout of a 10' x 10' room with a 13' x 13' column. The top diagram shows the column in the center, with dimensions 25" (635mm) on the left, 13" (330mm) for the column, and 43" (1090mm) on the right. The bottom diagram shows the column shifted to the right, with dimensions 43" (1088mm) on the left, 13" (330mm) for the column, and 25" (637mm) on the right. Both diagrams include a door on the right wall.

FIG. 5.1 - INSTALLING HEADREST

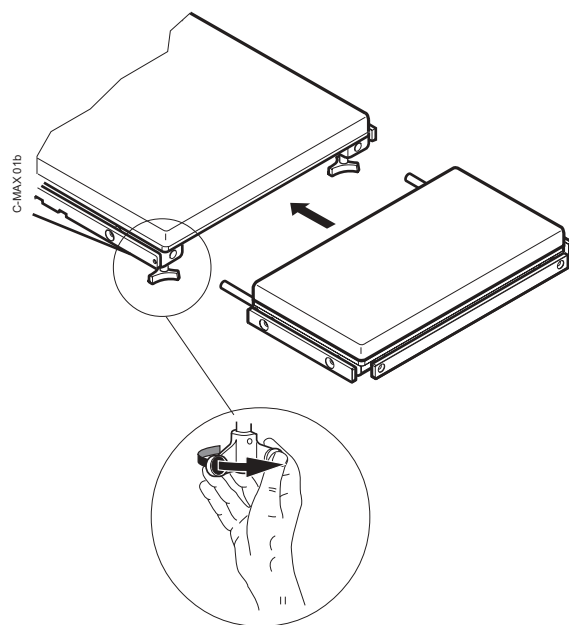
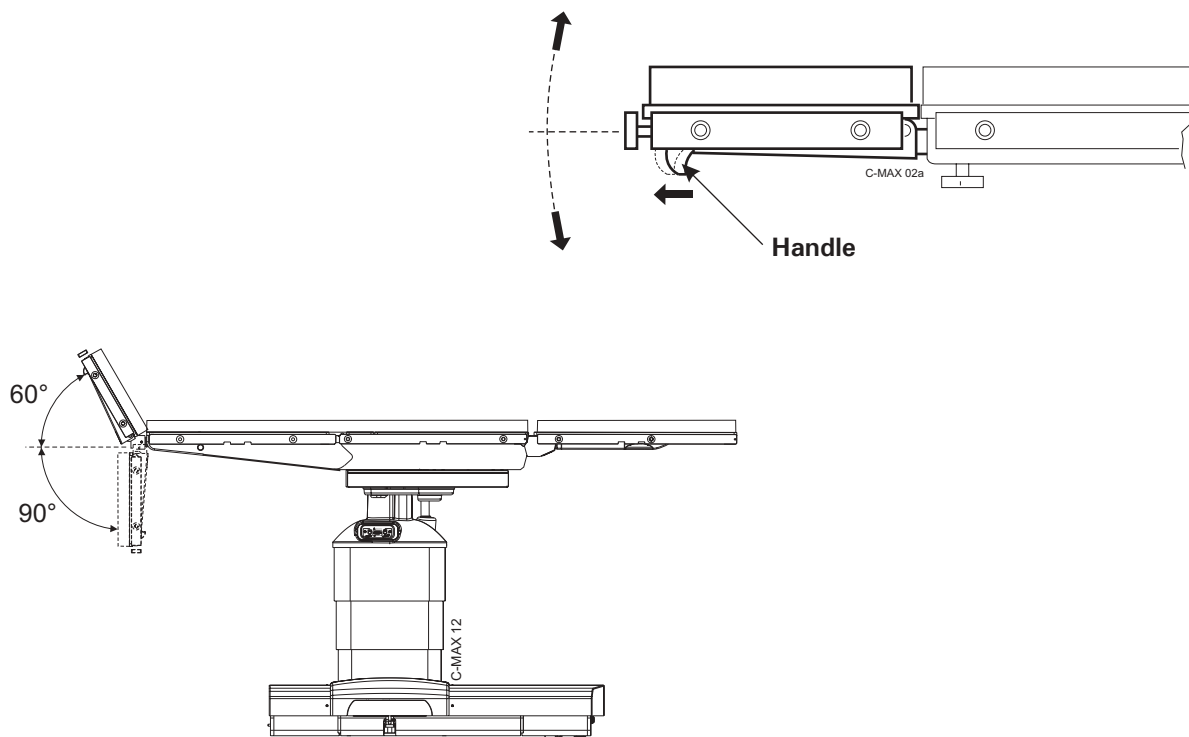


FIG. 5.2 - HEADREST ADJUSTMENT



5 - Installation instructions :

5.1 - Installing headrest (FIG. 5.1) :

Attach the headrest at the end of the back frame as follows :

1. Fully loosen the two locking device thumbscrews located at the end of the back frame.
2. Insert both rods of the headrest attachment into the two back frame bores until fully engaged. **The head rest must fit in easily.**
3. Fully tighten the two thumbscrews to secure the headrest in place.

By pulling the headrest on both sides, check that it has been correctly secured.

5.2 - Headrest manual adjustment (FIG. 5.2) :

The headrest can be continuously tilted downwards and upwards from horizontal level (max 90° downwards and max. 60° upwards) as follows :

1. Pull handle located under right side of headrest and tilt the headrest to desired angle, at the same time, holding full weight of patient's head on headrest.
2. Once the tilt has been obtained, release the handle.

FIG. 5.3 - REMOVING LEG SECTION

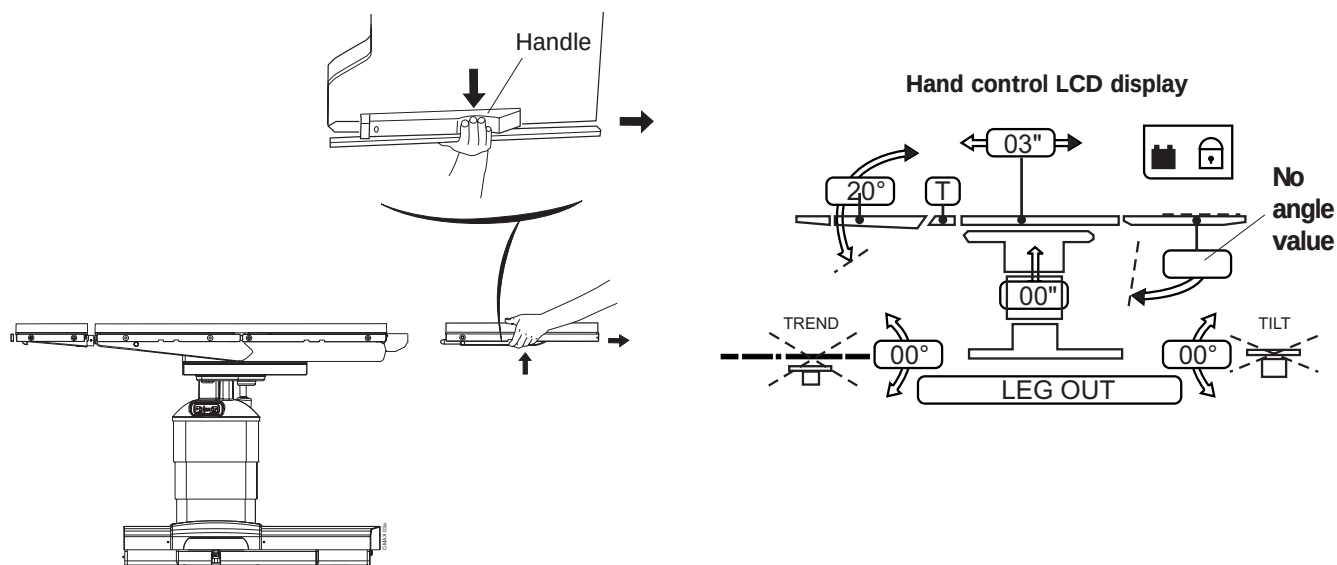


FIG. 5.4- INSTALLING LEG SECTION

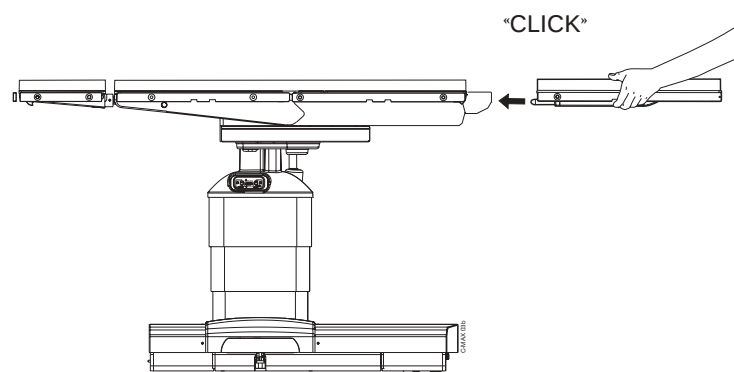
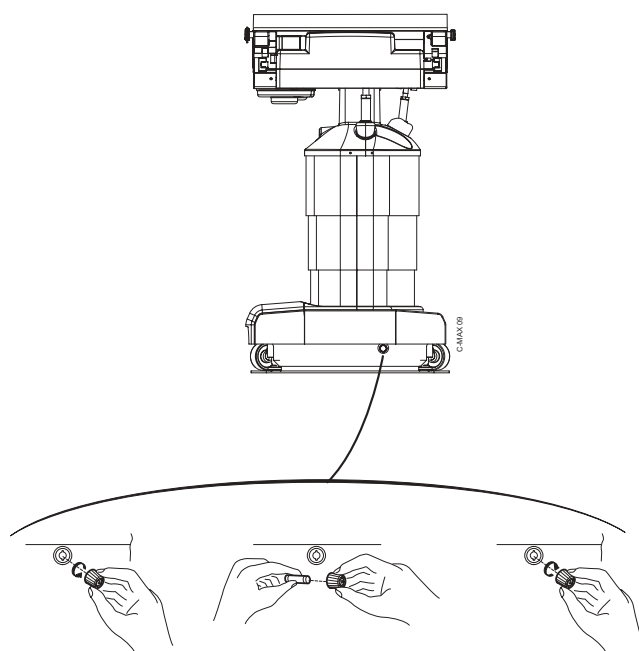


FIG. 5.5 - INSTALLING BATTERY FUSE



5.3 - Removing and installing leg section :

The C-MAX leg section is designed to be removable (Hi-lock, pending patent) in order to provide free access to the surgeon while using additional leg supports (refer to patient positioning, chap. 7)

Do not remove leg section while patient not correctly positioned.
— Patient's torso and buttocks must be firmly held in position by the operating table seat plate and his legs supported by additional leg supports correctly attached to seat section side rails (refer to leg support's instructions for use).

Remove the leg section as follows (FIG. 5.3) :

1. Position leg section horizontally using hand control.
2. While holding the leg frame, press both handles and simultaneously pull backwards.

Stow leg plate close by with care.

N.B. : Seat articulation interfaces can be folded down to provide better access for surgeon.
When leg section removed, corresponding LCD angle value disappears (refer to hand control operations, chap.6.1)

Installing leg section (FIG. 5.4) :

1. Position seat articulation interfaces horizontally (leg up max.) using hand control leg section upwards key.
2. Insert both rods for the leg frame attachment into the seat bores until fully engaged. Listen to the «Click» which indicates that the leg section is correctly engaged. The leg frame must fit in easily.
It is not necessary to press handles.
By pulling the leg section on both sides, ensure that it has been correctly secured.

👉 When leg section is not correctly secured, corresponding LCD angle value does not appear (FIG.5.3) and «LEG OUT» appears at the hand control LCD message window when pressing «LEG UP» or «LEG DOWN» key.

5.4 - Installing and removing battery fuse :

For safety and transport purposes, the protection fuse is packaged separately in a plastic bag attached to the table.

Installing battery fuse (FIG. 5.5) :

- Remove the fuse from its bag.

1. Unscrew the black fuse holder cap located at the front of the table base
2. Insert the fuse in the black fuse cap.
3. Insert the fuse and the fuse holder assembly in its housing.
Push in and turn the fuse holder a quarter turn clockwise to screw it into place.

- Pull on the fuse cap to ensure it is properly secured to the table.

If table remains in extended storage (more than 6 months), remove fuse to limit battery discharging and to maintain proper charge.

To prevent table batteries from any damage, keep premises temperature between 5°F (-15°C) and 122°F (50°C).

Removing the battery fuse :

The fuse is removed by unscrewing the fuse cap anti-clockwise.

FIG. 5.6 - CONNECTING POWER CORD

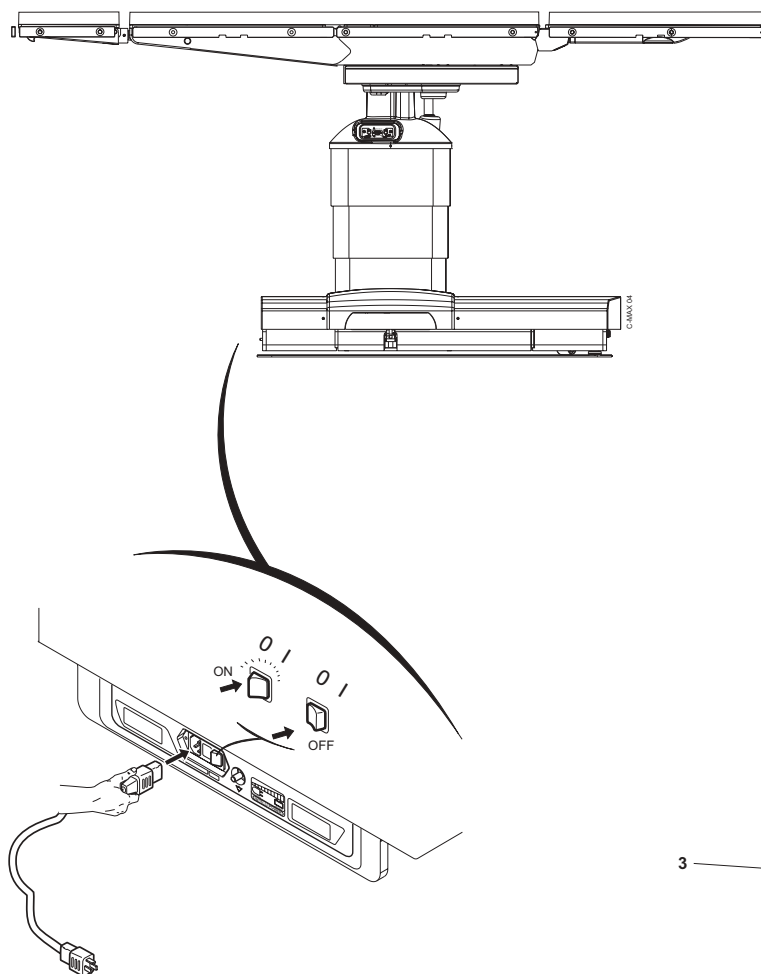


FIG. 5.7.1 - HAND CONTROL LCD DISPLAY

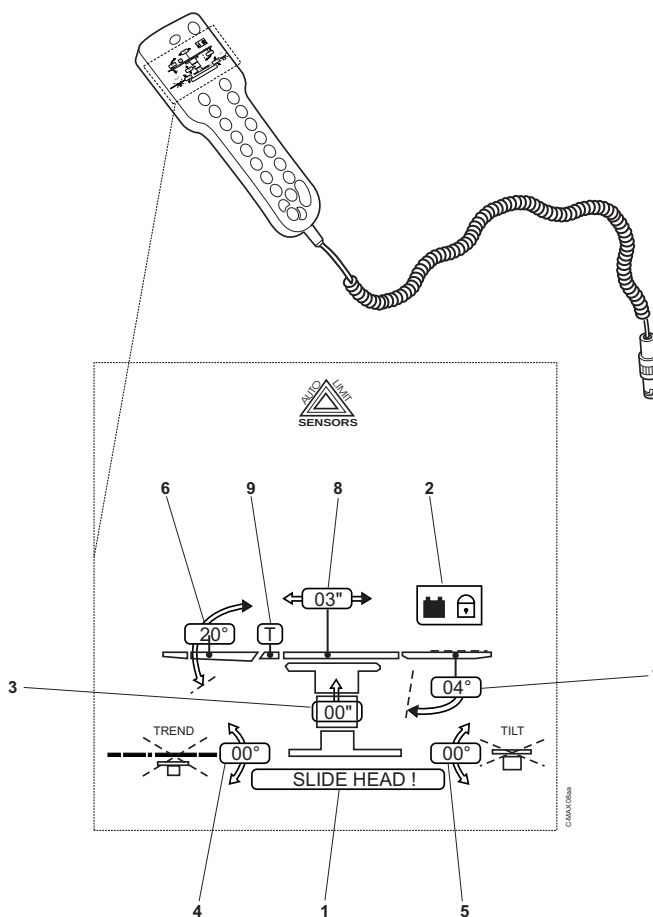
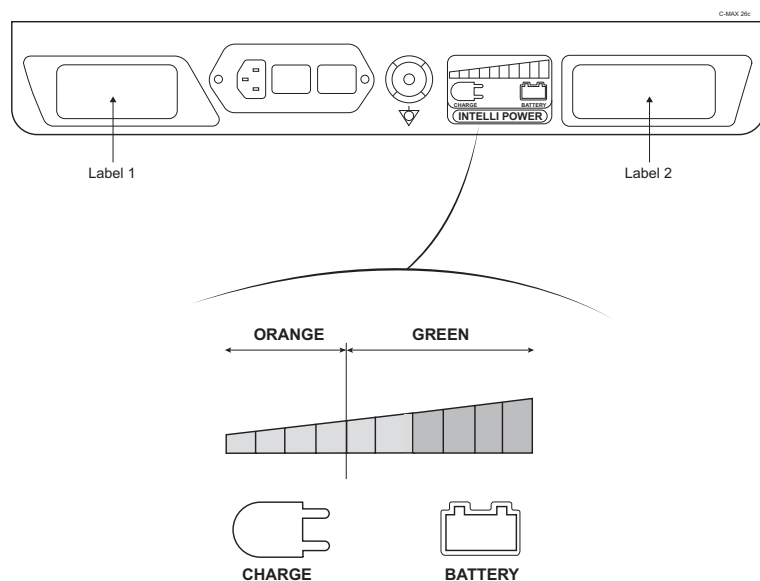


FIG. 5.7.2 - LED DISPLAY



To connect the table to the mains, proceed as follows (FIG. 5.6) :

1. Plug the 3.7-meter (or 5-meter for european version) long power cord to the male connector of the table power panel.
2. Connect the cord to the mains.
3. Switch mains switch on (I).

The mains switch green light and the plug symbol  light up.

Mains switch green light indicates mains power available. Plug symbol  indicates that batteries are charging.



Do not use the table in the presence of flammable anesthetics.

To disconnect the power cord, proceed in reverse order.

INTELLI POWER (patent pending)

The unique concept of C-MAX power supply allows the table to be either battery powered or electric powered.

5.6 ELECTRIC POWER MODE

The table is permanently connected to the mains.

The mains switch green light and plug symbol  +  are on. Battery charge status is continuously provided by the LED display of power panel.

5.7 BATTERY POWER MODE

If table is used in a battery power mode and hand control is on, the battery symbol  +  are on.

The mains power cord is disconnected.

Battery discharge status is continuously provided by the LED display of power panel and by the hand control indicator (refer to hand control operations, chap 6.1).

a) Battery Discharge Status :

The LED display (FIG. 5.7) and hand control LCD display (FIG. 5.7.1) indicates gradually battery discharge status :

- LED display at the power panel indicates battery discharging during movements and battery status when no movement is done.
- Battery status indicator, at the hand control, indicates only battery status.
- When orange and green diodes are on, they indicate that the battery power supply is normal.

Battery status indicator :  appears at the LCD message window.

- When 2 green diodes are off, they indicate that batteries are half discharged. This level of power allows the table to operate normally without damaging the batteries.
Batteries must be recharged before last green diode light goes out.

Battery status indicator :  appears at the LCD message window

- All green diodes are out : batteries are discharged. Batteries must be recharged without further delay.

Battery status indicator :  appears at the LCD message window

All green and orange diodes are out : batteries are over discharged and table can only work on mains.



Prior to all surgical procedures, for anticipated duration, ensure that battery charge is sufficient to perform the surgical procedures.

FIG. 5.8 - CONNECTING AND DISCONNECTING HAND CONTROL

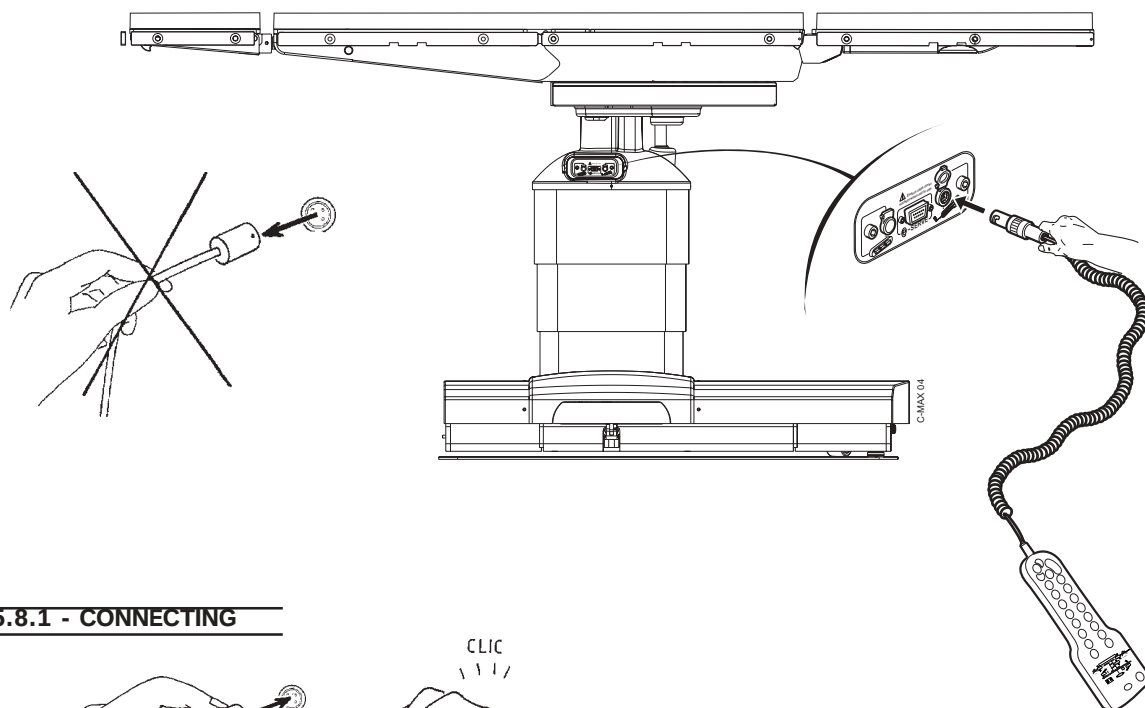


FIG. 5.8.1 - CONNECTING

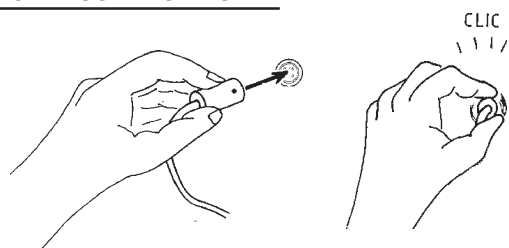


FIG. 5.8.2 - DISCONNECTING

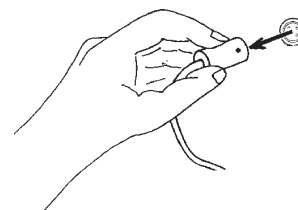
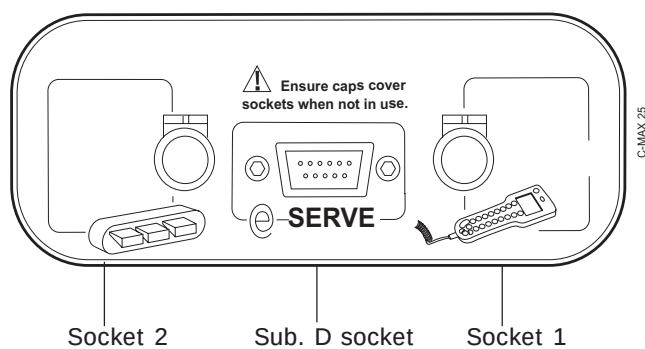


FIG. 5.9 - CONNECTION PANEL



b) Recharging batteries :

If table is used in the **battery power mode** (power cord disconnected), recharge batteries regularly by connecting table to the mains and pushing mains switch on. Maximum charging time = 12 hours.

When batteries are fully charged, 100 to 150 procedures (approx. 3 weeks) are possible without recharging.

Batteries are automatically recharging when table is connected to the mains and mains switch is on.

The LED display gradually indicates **charge status** of batteries..

Batteries are fully charged when all diodes orange and green are on. Chosing mode always starts at minimum (2 orange diodes on only), and increase quickly if batteries are charged.

Regular battery recharging will prolong battery life

5.8 - Connecting and disconnecting hand control :

The control unit is packed separately.

Connecting the hand control (FIG. 5.8) :

Remove the hand control from its package.

The hand control has to be connected to the connection panel socket 1 (FIG. 5.9) as follows :

1. Light up the table connector's protective cover.
2. Align the red mark on the hand control plug with the mark on the table socket.
3. Push the hand control plug fully into the socket 1.
Listen to the "click" which indicates that the hand control is properly connected.

Press any key (except "OFF") of the hand control to start up the table. This handset will allow the table to be moved or secured to the floor, and controls all the movements (refer to hand control operations, chap 6.1).

Disconnecting the hand control :

1. Switch it off.
2. Grasp the body of the hand control plug and pull it out from the socket.



The plug is equipped with a safety lock feature : do not pull on hand control cord to disconnect it from the table as this will damage it.



Ensure socket cap covers the socket properly.

FIG. 5.10 - CONNECTING AND DISCONNECTING OPTIONAL FOOT CONTROL

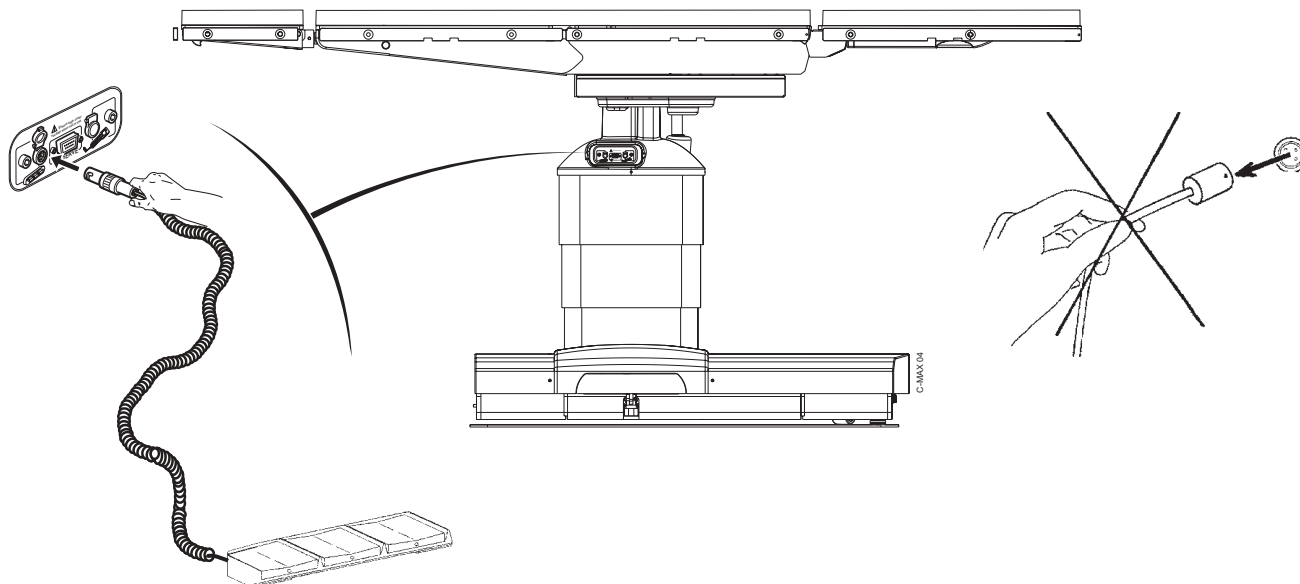


FIG. 5.8.1 - CONNECTING

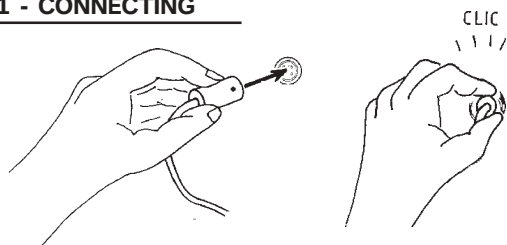


FIG. 5.8.2 - DISCONNECTING

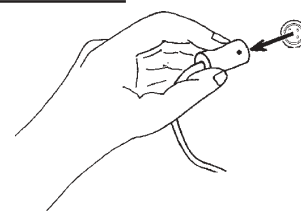
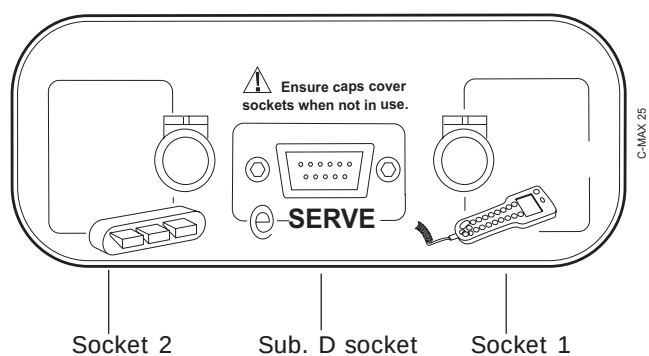


FIG. 5.9 - CONNECTION PANEL



5.9 - Connecting and disconnecting optional foot control :

The foot control allows to adjust HEIGHT, TREND and TILT movements.

Connecting the optional foot control (FIG. 5.10) :

- Remove the foot control from its package.

The foot control has to be connected to the connection panel socket 2 (FIG. 5.9) as follows :

1. Light up the table connector's protective cover.
2. Align the red mark on the foot control plug with the mark on the table socket.
3. Push the foot control plug fully into the socket 2.
Listen to the "click" which indicates that the foot control is properly connected.

- Press and release any positioning pedal to switch on foot control (refer to foot control user's instructions). This will automatically switch on the table. "PEDAL ON" appears at the hand control LCD message window.
This safety measure limits undesired table movement due to pedal short circuiting.



If the hand control unit and the foot pedal used at the same time, the hand control unit has priority.



Hand control "OFF" key also switches off the foot control.

Disconnecting the foot control :

- Grasp the body of the foot control plug and pull it out from the socket.



Ensure socket cap covers the socket properly.



The plug is equipped with a safety lock feature : do not pull on hand control cord to disconnect it from the table as this will damage it.

5.10 - Connecting to SUB-D socket for E-SERVE (FIG. 5.9) :

- C-MAX smart electronic design allows diagnostic and servicing to be performed from a distance by FHSurgical's service specialists (E-SERVE compatible)

Sub-D socket located at the connection panel is for authorized technical service, computer interface only.

- This plug must not be used for other purposes.

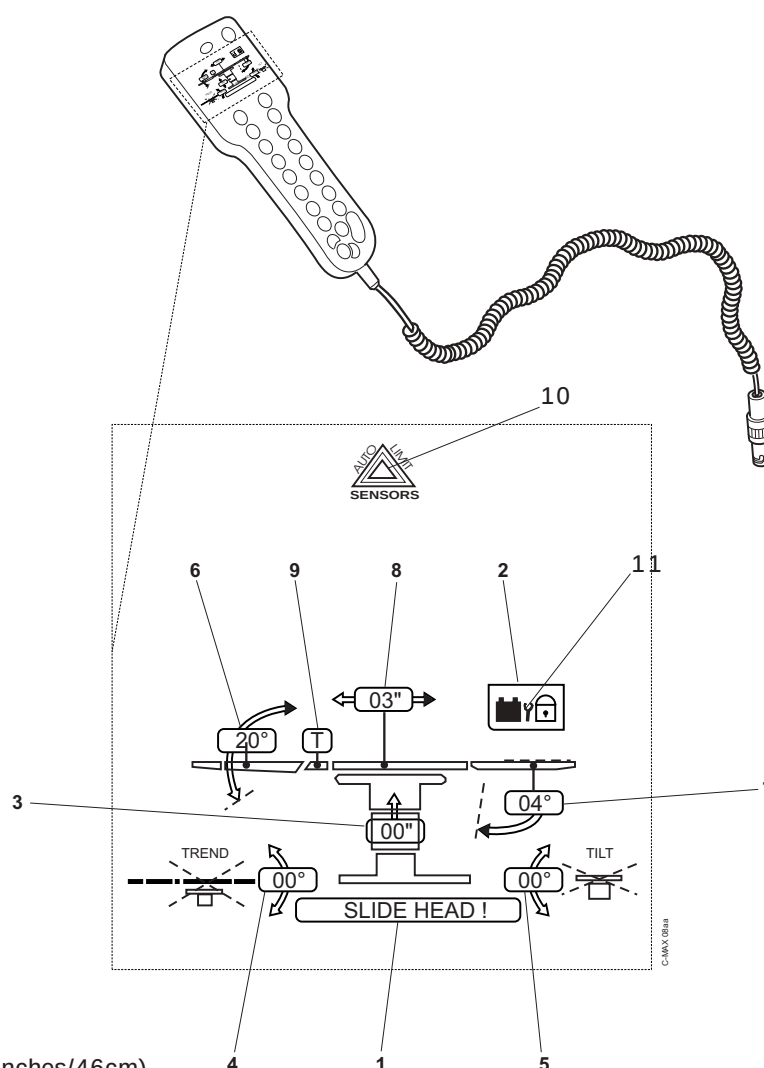


Ensure cap always covers the socket properly.



Only FHSurgical representatives are authorised to use this socket. Do not connect any equipment without prior FHSurgical agreement. Otherwise, FHSurgical cannot be held responsible and guarantee does not apply.

FIG. 6.1 - LCD DISPLAY DESCRIPTION



- 1 LCD Message
- 2 LCD Status Indicators
- 3 Height stroke level value (from 0 to 18 inches/46cm)
- 4 Trendelenburg or Reverse Trendelenburg angle value
Upward pointing arrow : Trend angle value (from 0 to 30°)
Downward pointing arrow : Reverse Trend value (from 0 to 30°)
- 5 Lateral tilt angle value
Upward pointing arrow : Right tilt angle value (from 0 to 20°)
Downward pointing arrow : Left tilt angle value (from 0 to 20°)
- 6 Back plate angle value : relative angle value in relation to seat plate level
Upward pointing arrow : back plate angle value up to seat plate level (from 0 to 90°)
Downward pointing arrow : back plate angle value down to seat plate level (from 0 to 45°)
- 7 Leg plate angle value : relative angle value in relation to seat plate level (from 0 to 105°)
- 8 Slide value in relation to table top central position
Leftward pointing arrow : head slide value (from 0 to 9 inches/22cm)
Rightward pointing arrow : foot slide value (from 0 to 9 inches/22cm)
- 9 Kidney status :
"T " symbol is on : « kidney elevator is up »
No «T» symbol : « kidney elevator » is completely back in position
- 10 ALS warning
- 11 Maintenance key



**The values in the LCD display are given as guidelines. Their accuracy may vary according to environmental conditions (altitude, hydrometry, temperature, etc.)
Should a sensor not work properly, the value indicated will be wrong.
Take care to check patient positioning visually.**

6.1 - Hand control operations :

Description of function keys :

The desired operation can be activated by pressing any single key of the hand control.

1. ON

By simply pressing any key of the keyboard, except OFF, table is started up.

Keyboard backlighting system is activated.

LCD message (1): " READY" comes on for 1 second then goes off indicating that table is ready for use.

When the hand control has not been operated for a period of 2 minutes, the hand control automatically switches off, to prevent any unintentional movement during procedure and save power.

2. OFF

Emergency stop function.

By pressing OFF, table switches off and all functions are stopped immediately.

3. LOCK / FLOOR LOCK / UNLOCK



- C-Max operating table is equipped with a mobile base which enables table to be moved in operating theatre in order to allow floor cleaning or table relocation.

- Shifting from lock to unlock status is completed via hand control.

- Table can either be positioned on wheels or immobilised on floor blocks.

- Floor lock function prevents the table from being unadvertently unlocked.

Identifying lock / unlock status :

- LCD status indicator  comes on : table is positioned on wheels.

- LCD status indicator  comes on : table is immobilised on floor blocks.

 **Table top movements can not be operated when table is unlocked.**
Lock table before positioning patient on the table and before pressing any table top movement key.

 **If one of these keys is pressed before table is locked, " LOCK TABLE" appears at the LCD message window (1).**

 **In case of table displacement with patient on it, table top must be in a flat position, centered in relation to table column.**
Prior to this, the user will have to remove any obstacles that might stand in the way and move table with care.

To lock the table, proceed as follows :

1. Press FLOOR LOCK 

LCD message (1) : «Press  or  » appears at the LCD message window.

2. Press LOCK 

During time lapse from unlock mode to effective lock mode, «LOCKING» appears at the LCD message window.

LCD status indicator :  comes on.

 Since table is locked, ensure table is stable according floor flatness. Relocate table if required.

To unlock the table, proceed as follows :

1. Press FLOOR LOCK



LCD message (1) : «Press  or  » appears at the LCD message window.

2. Press UNLOCK



LCD status indicator :  comes on.

During time lapse from lock mode, to effective unlock mode, "UNLOCKING" appears at the LCD message window.

4. REV. ORIENT



For few specific positioning (refer to patient positioning, chap 7.10 : Shoulder surgery), the table can be used in reverse configuration.

When REV. ORIENT. key is activated, all other commands automatically take into account **new patient head position** ; direction of Trendelenburg and lateral tilt movements are **automatically** reversed. BACK and LEG movements are automatically permutated.

Flex and reflex movements are not available.

 The information displayed on LCD are not reversed.

When REVERSE ORIENTATION function is effectively activated, the REV. ORIENT. diode is on.
To deactivate the REVERSE ORIENTATION function, press again REV.ORIENT. key.



 When table is turned off, table memorizes orientation status.
Before any new positioning, ensure table is correctly configured in relation to patient orientation function.

TABLE TOP MOVEMENT KEYS

5. HEIGHT UP



By pressing HEIGHT UP, tabletop moves up. Display HEIGHT stroke value (3) moves accordingly.

6. HEIGHT DOWN



By pressing HEIGHT DOWN, tabletop moves down. Display HEIGHT stroke value (3) moves accordingly.

7. TREND



By pressing TREND., tabletop moves into Trendelenburg position. Display TREND value (4) moves accordingly.

8. REV. TREND



By pressing REV.TREND., tabletop moves into reverse Trendelenburg position. Display TREND. value (4) moves accordingly.

9. TILT LEFT

By pressing TILT LEFT, tabletop tilt towards Patient's left side. Display LATERAL TILT value (5) moves accordingly.

10. TILT RIGHT

By pressing TILT RIGHT, tabletop tilt towards Patient's right side. Display LATERAL TILT value (5) moves accordingly.

11. BACK UP

By pressing BACK UP, tabletop back section moves up. Display BACK SECTION value (6) moves accordingly.

12. BACK DOWN

By pressing BACK DOWN, tabletop back section moves down. Display BACK SECTION value (6) moves accordingly.

13. LEG UP

By pressing LEG UP, tabletop leg section moves up. Display LEG SECTION value (7) moves accordingly.
When leg section is removed, leg section value disappears.

14. LEG DOWN

By pressing LEG DOWN, tabletop leg section moves down. Display LEG SECTION value (7) moves accordingly.
When leg section is removed, leg section value disappears

15. SLIDE HEAD

By pressing SLIDE HEAD, tabletop moves towards head end. Display SLIDE value (9) moves accordingly.
When slide returns to "O" central position, movement stops for one second, then starts again.

16. SLIDE FOOT

By pressing SLIDE FOOT, tabletop moves towards foot end. Display LEG SECTION value (8) moves accordingly.
When slide returns to "O" central position, movement stops for one second, then starts again.

17. KIDNEY UP

By pressing KIDNEY UP, kidney elevator moves up. Display KIDNEY "T" symbol (9) comes on.

18. KIDNEY DOWN

By pressing KIDNEY DOWN, kidney elevator moves down. Display KIDNEY "T" symbol (9) disappears when it is back to "O" position.

19. LEVEL

By pressing LEVEL, tabletop is gradually returned to horizontal position by aligning tabletop sections in the following order :

1. Kidney and Lateral tilt
2. Trend and Back
3. Leg

Corresponding movement value varies accordingly on display.



When REVERSE ORIENTATION is activated, level function does not include back section for compliance with anesthesia procedures.

20. FLEX

By pressing FLEX, back section moves down and tabletop moves into reverse Trendelenburg position. Corresponding movement value varies accordingly on display.



In reverse configuration, Flex function is not available for patient safety reasons. "REV. ORIENT." appears at the LCD message window.

21. REFLEX

By pressing REFLEX, back section moves up and tabletop moves into Trendelenburg position. Corresponding movement value varies accordingly on display.



In reverse configuration, reflex functions are not available for patient safety reasons. "REV. ORIENT." appears at the LCD message window.

22. For the slide and height indication, it is possible to change the values displayed from inches to centimeters (or from centimeters to inches) by pressing simultaneously LEVEL and FLEX buttons just after switch on, within the 5 first seconds.

6.2 - ALS description :



C-MAX smart electronic design using built-in sensors, provide safety information to the users. These sensors prevent sectional conflict and detect accidental table collisions with external obstructions (AUTO LIMIT SENSORS : pending patent).

To prevent sectional conflict, or collision with table or floor, ALS system immediately stops movement in process. ALS Diode lights up. (page 27, 10)

To continue movement in process, the suggested alternative table movement appears at the LCD message window.

NB : The suggested alternative movement is not the only one possible.

Caution : these ALS suggested alternative table movements do not take into account the type of surgery being conducted or the environment (e.g. : other equipment close by) and might not be compatible with the surgical procedure in process. To avoid any risk and before carrying out the suggested alternative, the user should evaluate feasibility.

FIG. 6.2 - COLLISIONS

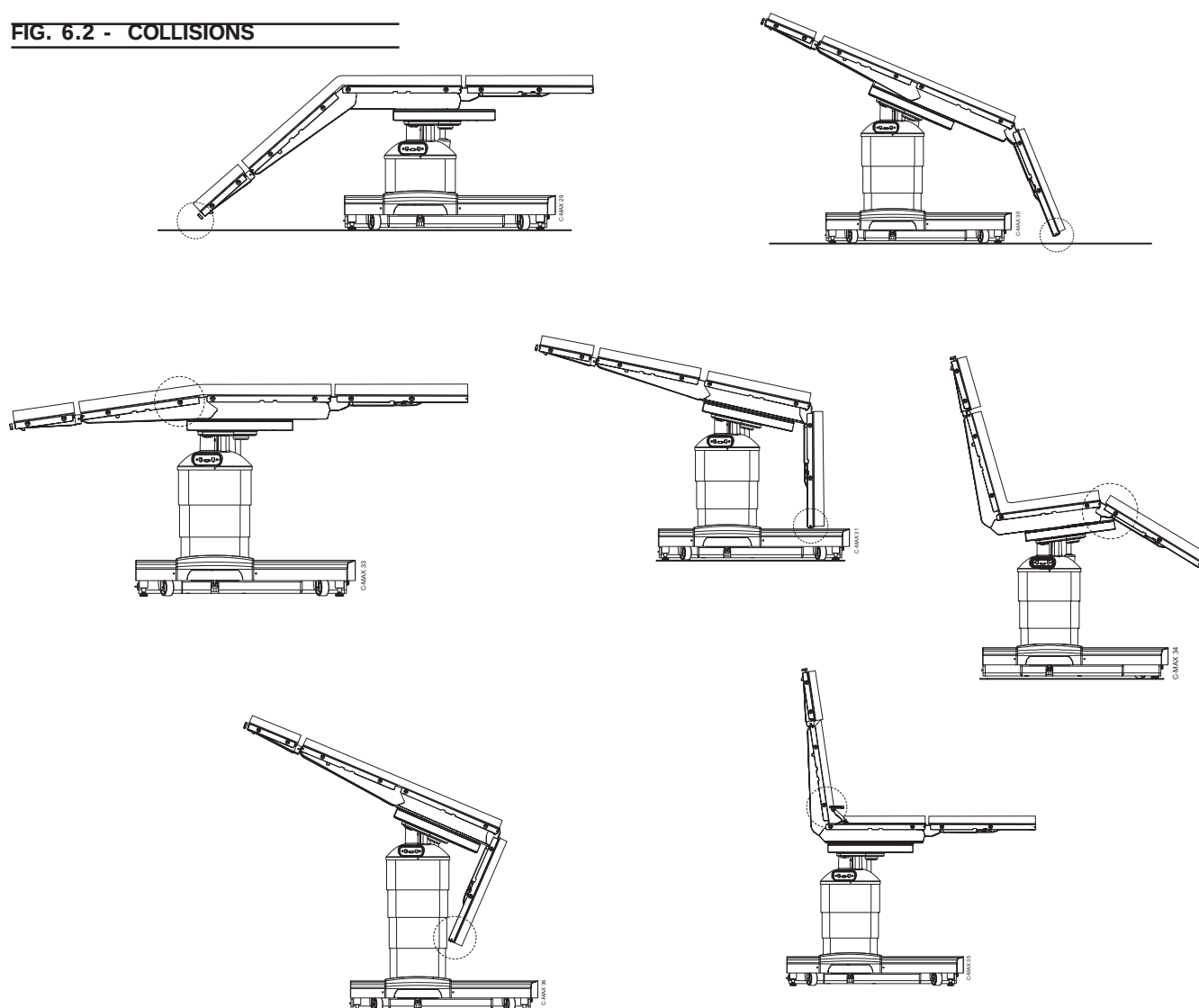


FIG. 6.3 - ALS RECOMMENDATIONS

OPERATION	POTENTIAL COLLISION	RECOMMENDATION
Normal orientation		
Height down	Leg section/base	TREND
	Leg section/floor	LEG UP
	Headrest/ floor	REV TREND
Slide head	Leg section/slide	LEG UP
	Leg section/base	TABLE UP
	Leg section/floor	LEG UP
	Leg section/column	TREND
Slide foot	Back section/slide	BACK UP
	Leg section/base	TREND
	Leg section/floor	TREND
Leg up	Leg section/floor	TABLE UP
	Leg section/base	TABLE UP
Leg down	Leg section/base	TABLE UP
	Leg section/floor	TABLE UP
	Leg section/slide	SLIDE FOOT
	Leg section/column	TREND
Back up	Kidney elevator/Back section	KIDNEY DOWN
Back down	Headrest/floor	TABLE UP
	Back section/slide	SLIDE HEAD
Kidney up	Kidney elevator/Back section	BACK DOWN
Trend	Headrest/floor	TABLE UP
Rev. Trend.	Leg section/floor	TABLE UP
	Leg section/base	TABLE UP
	Leg section/column	TREND
Tilt (left or right)	Leg section/floor	TABLE UP
	Leg section/base	TABLE UP
	Leg section/column	TABLE UP
	Headrest/floor	TABLE UP

6.3 - Optional foot control operations :

Refer to chapter 5.9 to connect the foot control to the table.

1. Lock table : tabletop movements are not allowed when table is unlocked.
2. Ensure table is correctly configured in relation to patient orientation function.

6.4 Tabletop pads

FUSION conductive tabletop pads have to be ordered separately.
Pad set is comprised of three components.



Use exclusively recommended FUSION pads.

Installing pads :

1. Remove the pad from its bag.
2. Position pad on the section. Press pad and table top sections Velcro strips together.

Removing pads :

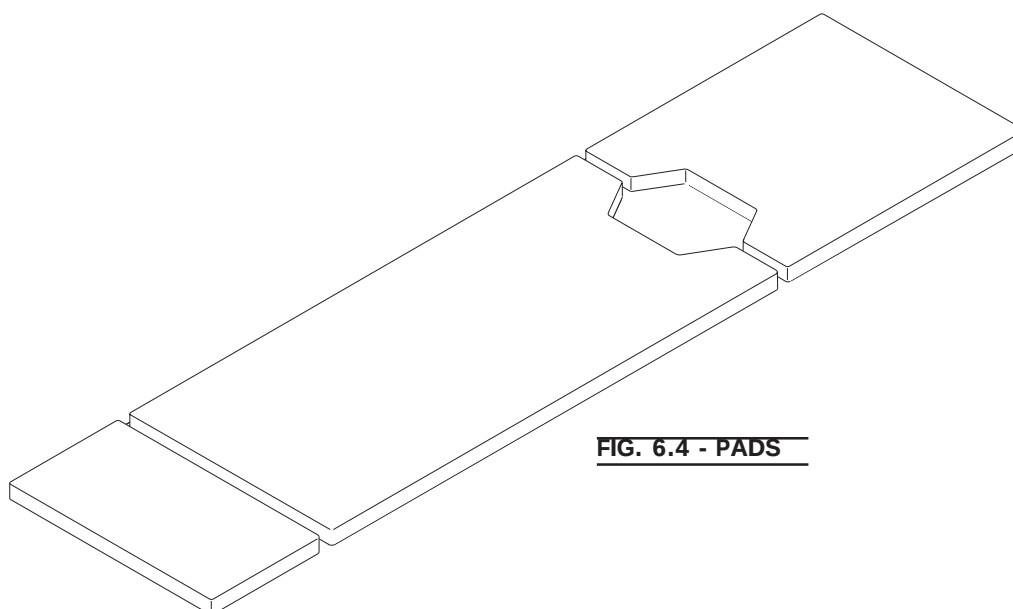


FIG. 6.4 - PADS

6.5 - Optional Xray top :

This accessory is available for the use of X-ray cassette film.
Xray double top set is comprised of four components (FIG. 6.4)

Installing Xray top :

- 1- Remove X-ray top sections from their box.
- 2- Remove pads from the tabletop.
- 3- Position X-ray top section onto corresponding tabletop section and make standoffs fit inside mounting holes (see drawing).
- 4- Reinstall pads.

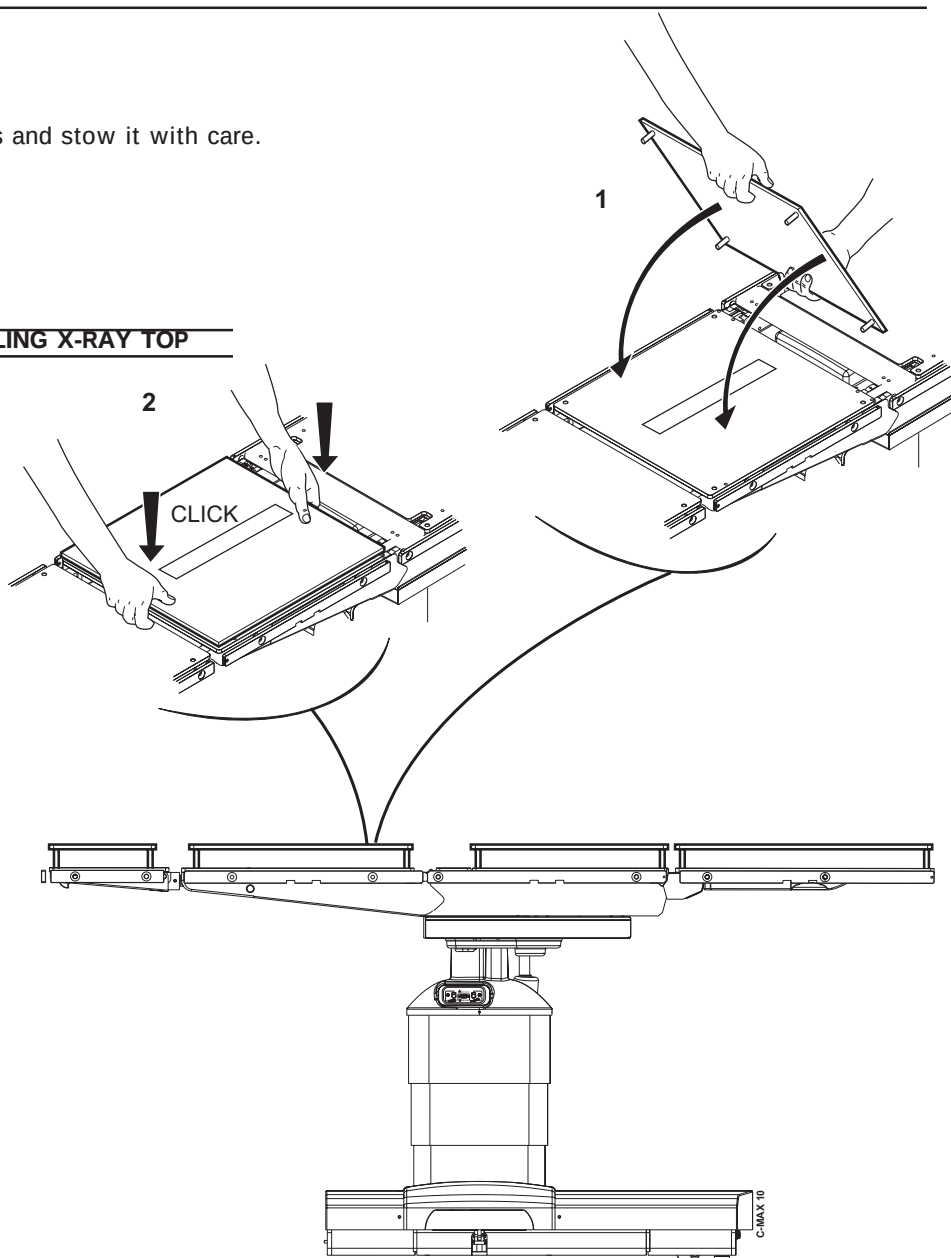


Ensure that it has been correctly secured, by pulling lightly double top up.

Removing Xray top :

- 1- Remove pads from Xray top
- 2- Pull away X-ray top upwards and stow it with care.
- 3- Install pads on tabletop.

FIG. 6.5 - INSTALLING X-RAY TOP





7 - Patient positioning :

C-MAX is suitable for most surgical procedures and designed to support patient weighing up to 600 lbs (270kg), in standard positions defined hereafter.

The C-MAX top slide provides full body imaging (FIG. 7.1) and avoids patient reorientation (except for shoulder arthroscopy with shoulder chair accessory).

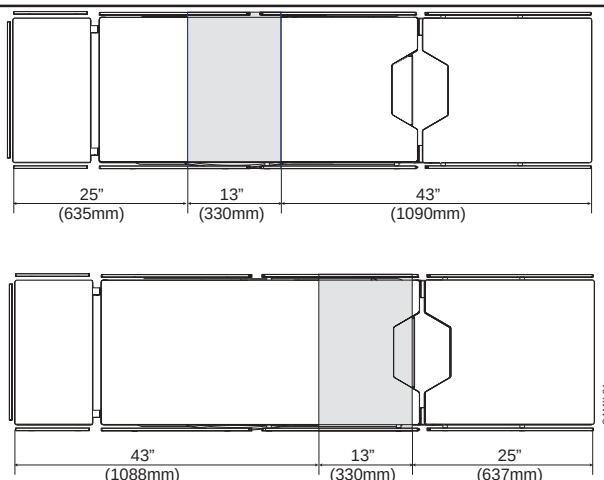


Do not exceed 600 lbs (270 kg) patient weight, using standard positions specified hereafter in chapter 7.



If a heavy patient (500-600 lbs) / (230-270 kg) is placed on the tabletop in full slide towards patient head end, caution should be used to avoid bumping the table, which can cause the table to tip. If chest compressions or other forces need to be applied on a 500-600 lbs (230-270 kg) patient, the patient should be centered over the column.

FIG. 7.1 - X-RAY ACCESS

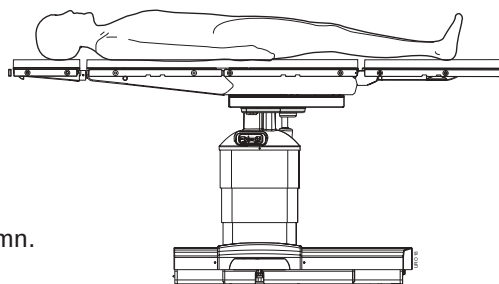


The positionings described below are given as an example only. They do not replace instructions that must be given by the health care professionals in charge of the patient to prevent patient injury. Accessories here-below are not systematically represented.



Possible patient or user injury may result from using accessories manufactured and sold by other companies.

7.1 Surgical procedure : Eye, E.N.T., facial plastic, open heart, abdominal vascular.

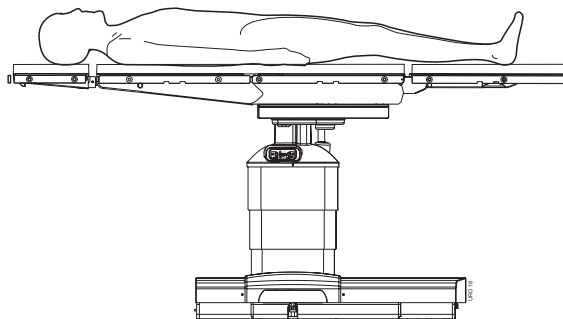


Patient is positioned in supine.

Tabletop is centered in relation to the table column.

Recommended equipment	
636900121/120	Flexible (rigid anesthesia screen (x1)
686900122	Easy clamps (x2)
686900114	Standard armboards (x2)
686900117	Restraint strap (x1)
Option	
542200818	Xray top
686900118	Footrest

7.2 Surgical procedure : Ophtalmology

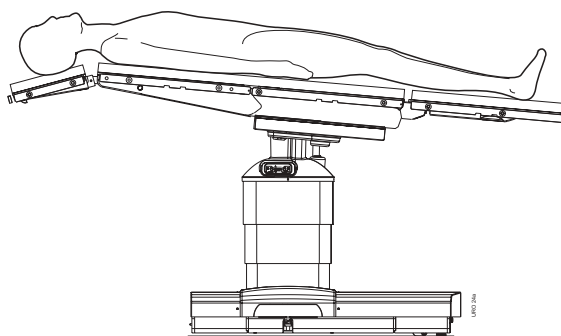


Patient is positioned in supine. Tabletop is centered in relation to table column and an extremely low height position can be obtained.

For surgeon convenience, an optional narrow headrest can be installed (refer to narrow headrest user's instructions).

Recommended equipment	
686900103	Narrow headrest (x1)
542200203	Headrest adapter (x1)
686900121/120	Flexible / rigid anesthesia screen (x1)
686900122	Easy clamps (x2)
686900114	Standard armboards (x2)
686900117	Restraint strap (x1)
Option	
542200818	Xray top (x1)
686900104	Narrow wristrest (x1)

7.3 Surgical procedure : Neck surgery



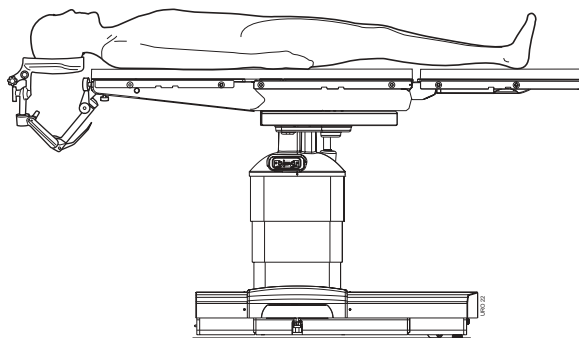
Patient is positioned in supine.

Tabletop is centered in relation to table column. Flex is given by using reverse trendelenburg and lowering headrest.

Recommended equipment	
686900121/120	Flexible / rigid anesthesia screen (x1)
686900122	Easy clamps (x2)
686900114	Standard armboards (x2)
686900117	Restraint strap (x1)
Option	
542200818	Xray top
686900118	Foot rest

7.4 Surgical procedure : Cranial surgery

a) Prone or supine position



Patient is positioned in supine or in prone position.

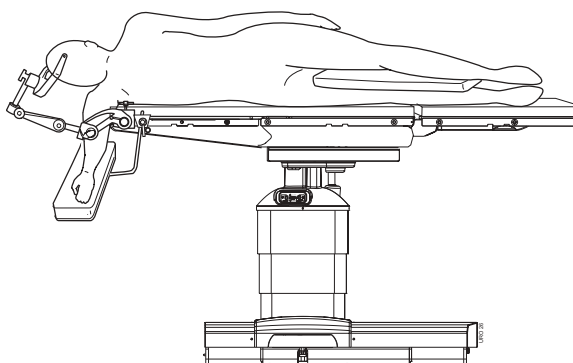
Tabletop is centered in relation to table column.

Optional surgical headrests can be installed, according to the surgeon's needs (refer to Neurosurgical headrest user's instructions).

Recommended equipment	
686900025	Basic unit
686900026	Horseshoe headrest - adult model
686900027	Swivel adapter
	Or
686900025	Basic unit
686900028	Skull clamp headrest - adult model
686900027	Swivel adapter
686900029	Adult skull pins
542200203	Standard headrest adapter
636900121/120	Flexible /rigid anesthesia screen (x1)
686900122	Easy clamps (x2)
686900114	Standard armboards (x2)
686900117	Restraint strap (x1)
Option	
542200818	X-ray top
686900030	Child skull clamp pins
686900031	Neurosurgical horseshoe headrest - child model

7.4 Surgical procedures : Cranial surgery

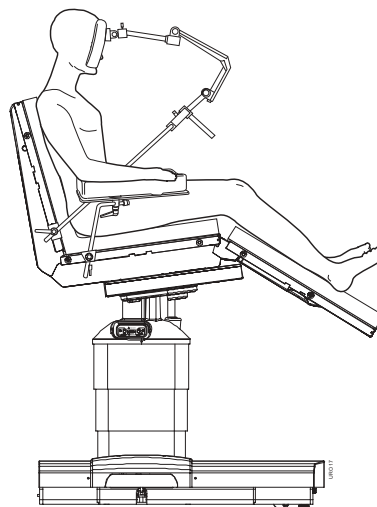
b) Lateral position



Patient is positioned in lateral position. Tabletop is centered in relation to table column.
Optional neurosurgical headrests can be installed according to surgeon needs (refer to Neurosurgical headrest user's instructions).

Recommended equipment	
686900025	Basic unit
686900027	Swivel adapter
686900028	Neurosurgical skull clamp headrest - adult model
686900029	Adult skull pins
542200203	Headrest adapter
686900117	Restraint strap (x1)
686900122	Easy clamps (x4)
686900128	Universal armboards (x2)
636900121/120	Flexible /rigid anesthesia screen (x1)
Option	
542200818	X-ray top
686900030	Skull clamp pins - child model

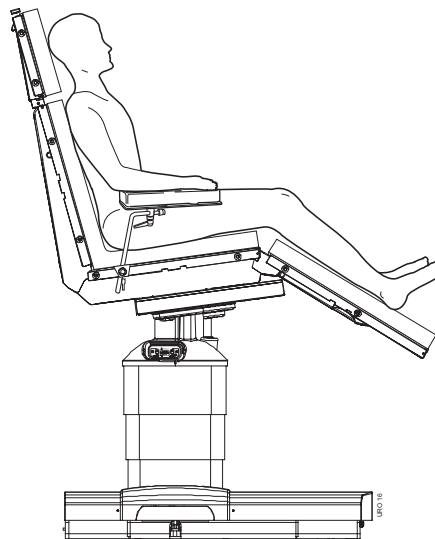
7.5 Surgical procedures : Cranial surgery



Patient is positioned in sitting position. Table top is slid 4 inches (about 100 mm) towards head end and moved 10° in Trendelenburg. Back section is approx. 75° up and leg section approx. 20° down. In this case C-MAX offers large clearance from the base. Optional neurosurgical head rests can be installed according to the surgeon's needs (refer to Neurosurgical headrest user's instructions).

Recommended equipment	
686900025	Basic unit
686900026	Horseshoe headrest - adult model
686900027	Swivel adaptor
	OR
686900025	Basic unit
686900027	Swivel adaptor
686900028	Neurosurgical skull clamp headrest - adult model
686900029	Adult skull pins
686900133	Headrest adapter for sitting position
686900117	Restraint strap (x1)
686900122	Easy clamps (x2)
686900128	Universal armboard (1)
Option	
686900031	Neurosurgical horseshoe headrest - child model
686900030	Child skull clamp pins

7.6 Surgical procedures : Plastic and breast surgery

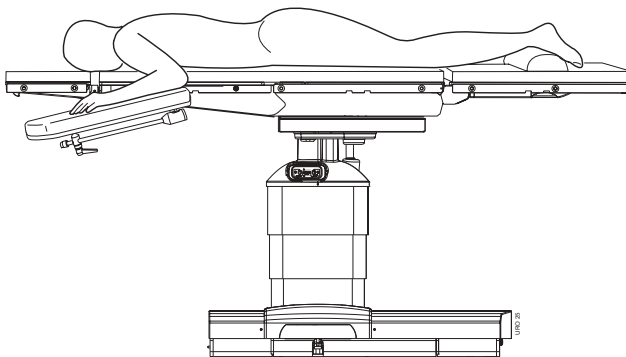


Patient is positioned in sitting position. Tabletop is slid 4 inches (about 100 mm) towards head end and moved 10° in Trendelenburg.
Back section is approx. 75° up and leg section approx. 20° down.
In this case, C-MAX offers a large clearance from the base.

Recommended equipment	
686900117	Restraint strap (x1)
686900122	Easy clamps (x1)
686900128	Universal arm board (1)

7.7 Surgical procedure : Spinal surgery

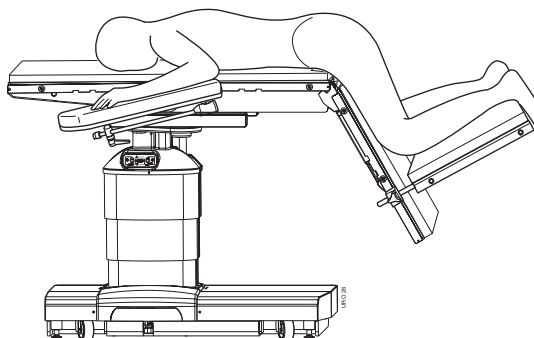
a) Prone position



Patient is positioned in the prone position. Tabletop is centered in relation to table column.

Recommended equipment	
686900117	Restraint strap (x2)
686900122	Easy clamps (x4)
686900128	Universal armboard (x2)
686900121/120	Flexible/rigid anesthesia screen (x1)
Option	
542200818	X-ray top

b) Knee-chest position

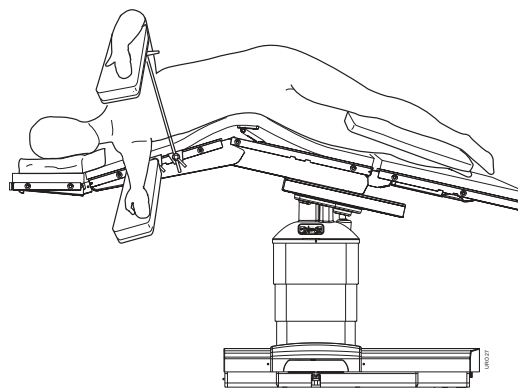


Tabletop is slid towards foot end.

Patient is positioned in knee-chest position, using Andrews frame or equivalent accessory.

Recommended equipment	
686900117	Restraint strap (x2)
686900122	Easy clamps (x4)
686900128	Universal armboard (x2)
686900121/120	Flexible/rigid anesthesia screen (x1)
542200910	Spinal frame
Option	
542200818	X-ray top

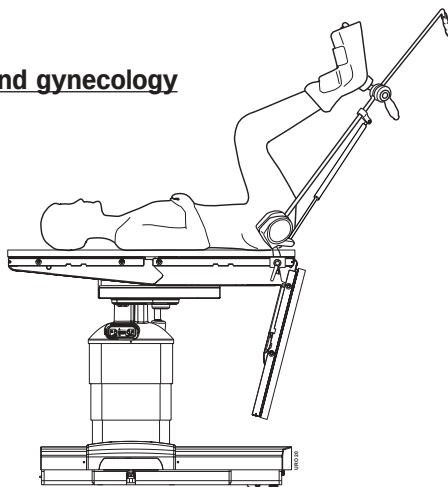
7.8 Surgical procedure : Kidney & Thoracic surgery



Patient is positioned in lateral position. Tabletop is slid towards head end with flex, between back and seat section. Kidney elevator can be used to increase flex.

Recommended equipment	
686900114	Standard armboard (x1)
686900117	Restraint strap (x1)
686900122	Easy clamps (x3)
686900128	Universal armboard (x1)
686900121/120	Flexible/rigid anesthesia screen (x1)
Option	
542200818	X-ray top

7.9 Surgical procedure : Urology, Proctology, and gynecology



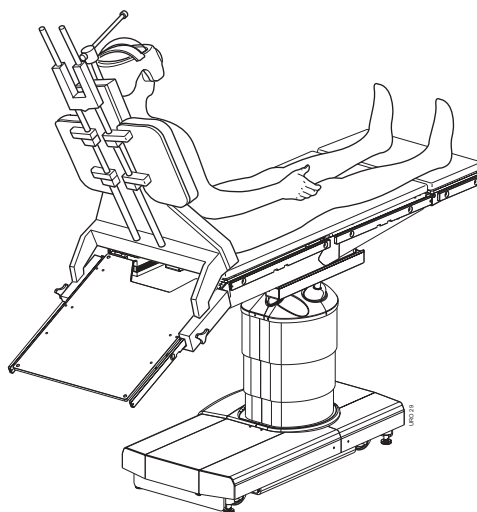
Headrest is removed. Tabletop slid towards patient foot end.

Patient is positioned in supine position with patient's legs placed in leg holders (refer to leg holders user's instructions).

Leg section is folded down or removed

Recommended equipment	
686900121/120	Flexible/rigid anesthesia screen (x1)
686900122	Easy clamps (x2)
686900114	Standard armboard (x2)
686900117	Restraint strap (x1)
686900103	Pair of leg holders
Option	
542200818	X-ray top
686900105	Transfer board

7.10 Surgical procedure : Shoulder arthroscopy

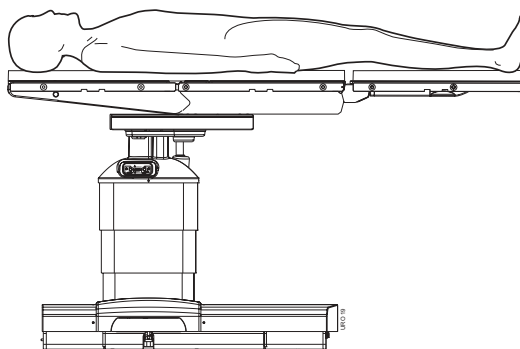


Shoulder chair accessory is positioned on the table prior to patient installation (refer to shoulder chair's user's instructions).

Patient is positioned in reverse orientation.

Recommended equipment	
686900108	Shoulder chair with lateral support
686900117	Restraint strap (x1)
686900122	Easy clamps (x3)
686900128	Universal armboard (x1)
686900121/120	Flexible/rigid anesthesia screen (x1)

7.11 Surgical procedure : Vascular & Angioplasty



Headrest removed. Tabletop is slid towards foot end. Patient is positioned in supine position. Footrest used as extension (refer to foot rest user's instructions) can be installed for tall patient.

Recommended equipment	
686900114	Standard armboard (x2)
686900117	Restraint strap (x1)
686900118	Footrest
686900122	Easy clamps (x2)
686900121/120	Flexible/rigid anesthesia screen (x1)
Option	
542200818	X-ray top

FIG. 8.1 : FOOT PUMP

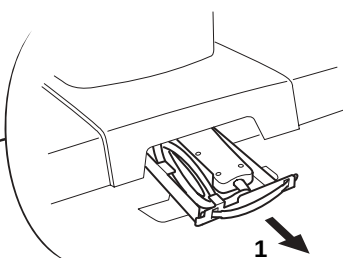
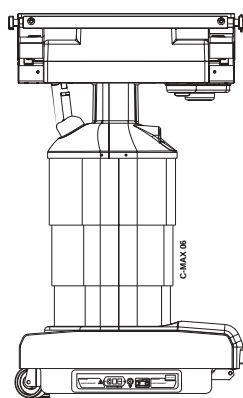
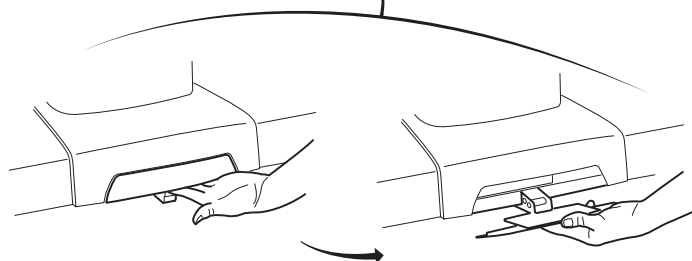
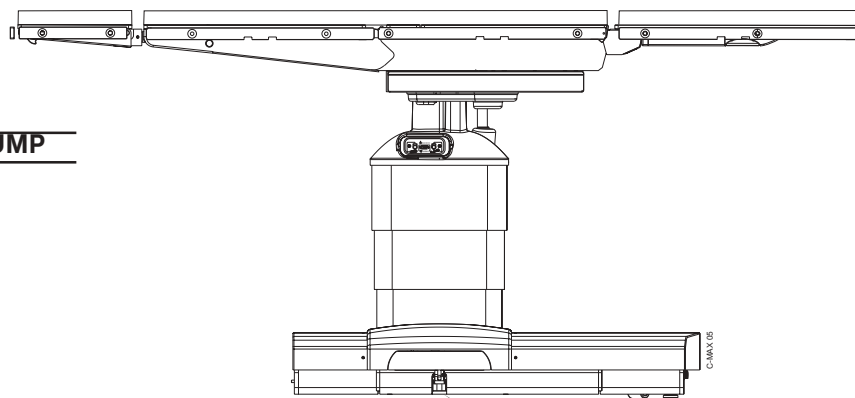
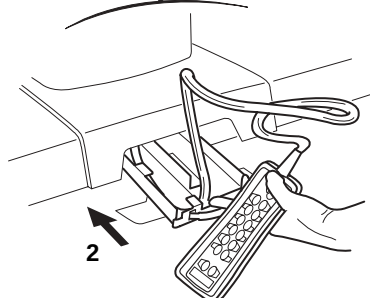
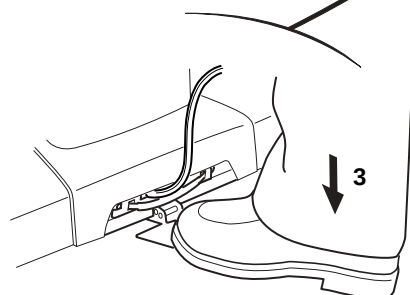


FIG. 8.2 : OVERRIDE HAND CONTROL



Operating table



- Pull pad away from tabletop section.

8 - Override system :

Description :

C-MAX surgical table is equipped with an override systems to be used in case of major electronic failure. This override system is located at the table base level, right side, and is comprised of :

- a foot pump to provide hydraulic power
- an override hand control to select movement to be activated.

Residual risks :

- In case of all unexpected situations, press "OFF" key to stop the table.
- In case of unexpected simultaneous movements, release the key.
- In case of no movement obtained :
 - a) Read hand control LCD message window and follow recommendations.
 - b) Press "OFF" key and press any key to switch on hand control.
 - c) If none of these actions solve the problem, use the override system.



In all these cases, contact your local service representative for maintenance.

8.1 Operating instructions

1. Flip pedal down (FIG. 8.1).
 2. Pull drawer out and grasp the override hand control (FIG. 8.2).
 3. Replace the drawer.
 4. Pump pedal while pressing desired movement key on the override hand control.
- For "UNLOCK" and "SLIDE" movements it is not necessary to pump.

NB : By pressing any key, the main hand control automatically switches off after 1 second.

Description of function keys :

The desired operation can be activated by pressing any single key of the override hand control.

When a key is pressed, green diode, located on upper part of keyboard, lights up.

1. LOCK

By pressing LOCK and pumping simultaneously, floor blocks are gradually engaged. To ensure table has been correctly secured on the floor, gently push table.

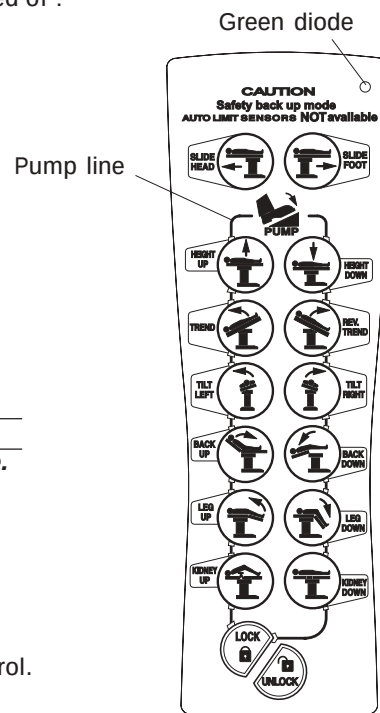
2. UNLOCK

By pressing UNLOCK only, floor blocks are gradually disengaged. To ensure floor blocks have been completely disengaged, gently push table.

3. HEIGHT UP

By pressing HEIGHT UP and pumping simultaneously, tabletop moves up.

4. HEIGHT DOWN



By pressing  HEIGHT DOWN and pumping simultaneously, tabletop moves down.
5. TREND

By pressing  TREND and pumping simultaneously, tabletop moves into Trendelenburg position.
6. REV. TREND.

By pressing REV.TREND. and pumping simultaneously, tabletop moves into reverse Trendelenburg position

7. TILT 

By pressing TILT LEFT and pumping simultaneously, tabletop tilt towards patient's left side.

8. TILT RIGHT 

By pressing TILT RIGHT and pumping simultaneously, tabletop tilt towards patient's right side.

9. BACK UP 

By pressing LEG UP and pumping simultaneously, tabletop back section moves up.

10. BACK DOWN 

By pressing BACK DOWN, table top back section moves down.

11. LEG UP 

By pressing LEG UP and pumping simultaneously, tabletop leg section moves up.

12. LEG DOWN 

By pressing LEG DOWN and pumping simultaneously, tabletop leg section moves down.

13. SLIDE HEAD 

By pressing SLIDE HEAD, tabletop moves towards head side.
It is not necessary to pump. This movement is electrically powered.

14. SLIDE FOOT 

By pressing SLIDE FOOT, tabletop moves towards foot side.

15. KIDNEY UP



By pressing KIDNEY UP and pumping simultaneously, kidney elevator moves up.

16. KIDNEY DOWN



By pressing KIDNEY DOWN, kidney elevator moves down.



When override hand control is in use, primary hand control is automatically shut off, after 1 second.



In override mode, no sensor is available (A.L.S. off) : when articulating table top, take care to avoid section collision with table top (e.g. : when sliding), with table base or with the floor.



In override mode, lock table before articulating table top.



There is no reverse orientation key in override mode. Controls are configured in normal orientation. When table is turned to back up mode, table does not memorise orientation status. Before articulating table top, take into account patient orientation. If patient is in Reversed Orientation change TREND selection to REV. TREND., BACK SECTION to LEG SECTION, LEFT TILT to RIGHT TILT, and vice versa.

8.2 Replacing override hand control :

1. Place override hand control face down in the right hand side of the drawer.
2. Wind up the cable in the left hand side of the drawer.
3. Push drawer back in.
4. Fold the pedal back.



Take care not to jam cable when replacing drawer.

9 - Cleaning and disinfecting

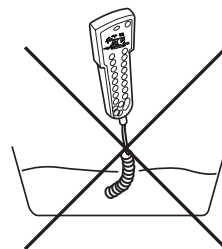
9.1 General instructions

When using cleaning and disinfecting products, be sure to strictly observe utilization precautions indicated by product manufacturer.

Before any cleaning operation:

*Switch off the table.
Disconnect the control unit.
Fit watertight covers on each connector.*

 **Do not immerse hand control unit in liquid.**



9.2 Cleaning and disinfecting

Use a ready-to-use detergent - disinfectant solution diluted as may be required. Be sure to observe dilution and temperature instructions recommended by manufacturer. Check that the active constituents of the products used are compatible with the materials implemented in manufacture of the **FHSurgical** products.

a) Cleaning between two surgical operations

Cleaning the control unit

- Disconnect the control unit.
- Wipe the control unit using a compress (or equivalent non-woven material) moistened with a detergent - disinfectant solution.
- Allow to dry.

Cleaning visible surfaces of table

- Spray a detergent - disinfectant solution over all the visible surfaces (carefully avoiding cushion seams).
- Using a compress, spread the detergent – disinfectant solution over all the surfaces. Allow to dry.

 **Do not spray solutions in direction of connectors.**

b) Complete cleaning at end of day

Removable parts

The pads are easily removed and installed by means of Velcro bands.

Cleaning the control unit

- Wipe the control unit using a compress (or equivalent non-woven material) moistened with a detergent-disinfectant solution.
- Allow to dry.

Cleaning pads

- Remove pads.
- Spray a detergent - disinfectant solution directly to pad cover.
- Using a compress, spread the detergent – disinfectant solution over the entire surface.
- Allow to dry.

Cleaning the Velcro bands

- If necessary, brush the Velcro bands of the pad and table using a non-metallic brush (e.g. : shrouds and skirt).

Cleaning the table

- Raise the table to the maximum position to have better access to the column
- Articulate table top to level position
- Spray a detergent – disinfectant solution over all the visible surfaces except for those previously cleaned. Using a compress (or equivalent non-woven material), spread the solution evenly. Allow to dry.

Note: To avoid any runs, we recommend that you use a compress to spread the solution, rather than spray.



Do not forget to clean wheels and floor blocks.

9.3 Recommended/unsuitable products

a) Recommended active constituents

The user should contact the hygiene manager at his center or his administrative supervisor. The products and procedures recommended by this organization must be observed. In the event of a doubt concerning the compatibility of the active constituents used, contact the **FHSurgical** product support department.

b) Unsuitable products



Do not use any oxidizing products with chloric derivative base such as bleach, or oxygenic derivatives such as peracetic acid.

10 - Maintenance

Service information :

The preventive maintenance program is essential for safe and proper unit operation.
The equipment must be periodically serviced and inspected.

Depending on how the table is used, inspections should be performed every 6 or 12 months :

- during the warranty period, by an **FHSurgical** technician or approved distributor,
- after the warranty period, by an **FHSurgical** technician, approved distributor or the hospital's engineering department, certificated by **FHSurgical**.

Any alteration of this equipment, not authorized or not performed by **FHSurgical**, and which could affect its operation, renders the guarantee null and void.

10.1 Key points to be checked every year :

a) Safety point

- All jacks attachments,
- All shafts securing,
- Side rails securing screws.

b) Setting

- Return to level,
- Sliding chain tension,
- Sliding rack and pinion gearing play.

c) Checks

Hydraulic parts

- Hydraulic oil level,
- All hoses,
- All cylinders, main valves box, floor blocks valves box,
- Electrical and foot pumps.

Mechanical parts

- Locking devices for headrest and leg support,
- Neatness of the column,
- Table rigidity,
- Engagement of the leg support and headrest,
- Floor blocks pads condition,
- Greasing of the translation chain and rack and pinion gearing,
- Casters condition.

Electrical parts

- Testing of all movements using the main hand control,
- Testing of the foot pedal,
- Soundness of hand controls and cords,
- Warning message of the hand control and memorized failures,
- All circuit boards, plugs and cables,
- Diagnostic line with E-Serve service software,
- Check the mains power supply switch,
- Battery charger status,
- Batteries condition.

d) External appearance

- Covers tightness,
- Cleaning using a damp sponge and soap,
- Caps.

10.2 Maintenance tasks for operator :

- a) End-of-day
 - Perform all steps of the cleaning procedure (refer to cleaning and disinfection, chap. 9).
 - Check the table status on the main hand control.
 - Recharge batteries (refer to recharging batteries, chap. 5.5) and check the battery charge.
- a) Weekly
 - Check that each movement is smooth and quiet.
 - Check Auto Limit Sensors function (refer to ALS check later in this section).
 - Check the main hand control condition.
- a) Monthly
 - Check the casters and floor blocks conditions and clean them.
 - Check the override hand control (refer to override hand control check later in this section).
 - Check the main hand control cord condition.
 - Check pads condition.

10.3 Routine maintenance procedure :

a) Recharging batteries :

If table is used in battery mode, recharge batteries at the following times :

- When table is first put into service;
- Whenever the last green LED at the power panel comes off;
- Whenever table is unused for a long period (longer than six months).

Batteries are automatically recharging when table connected to the mains and mains switch turned on. The LED display gradually indicates charging status of batteries.

For complete battery recharge, remain connected till last green LED comes on.

b) ALS check :

Clear the table top and switch on the table.

- 1) Raise table to the highest position.



- 2) Articulate table to level position.



- 3) Slide table top completely towards head end.



- 4) Try to move foot section down. Movement should be stopped before collision occurs. ALS indicator lights up. In case of malfunction, refer to technical manual.



c) Level check :

- 1) Articulate table to level position
- 2) Check level with air level.

In case of malfunction, refer to technical manual for adjustment.

d) Override hand control check :

- 1) Using main hand control, lower the table completely.
- 2) Flip pedal down.
- 3) Pull drawer out and grasp override hand control.
- 4) Replace drawer.
- 5) Pump pedal while pressing height up movement key.
- 6) Check table rises correctly.



In case of malfunction, refer to technical manual.

10.4 Environmental protection :

When disposing of old and/or damaged table parts, ensure the proper disposal of hazardous and other regulated waste in compliance with federal, state, and local regulations.

Hydraulic fluid : drain the hydraulic fluid off prior to scrapping the table, and dispose of this fluid properly.

Lead Acid batteries : do not dispose of old and/or damaged batteries along with normal household waste. They are classified as toxic waste.

10.5 Operator troubleshooting :

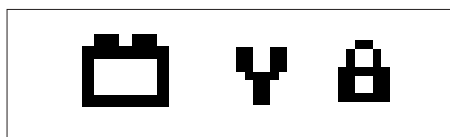
a) Troubleshooting chart

Malfunction	Possible cause	Corrective action
Table cannot turn on	1- Main battery fuse blown	1 - Replace battery fuse or connect the mains.
	2 - Main hand control defective	2 - Replace main hand control
No movement	1 - Batteries totally discharged	1 - Connect the mains.
	2 - Main hand control cord defective	2 - Replace hand control cord.
	3 - Electric pump or electronic mother board defective	3 - Use override hand control and call FHSurgical service department
Table remains on battery mode even when mains power cord is connected	1 - Wrong mains cord connection	1 - Reconnect mains power cord.
	2 - Power cord defective	2 - Replace power cord.
	3 - Mains fuses blown	3 - Replace mains fuse.
	4 - Mains switch is off (0)	4 - Switch mains switch on (I)

b) LCD indicator meaning :

Table is equipped with auto-diagnostic device. When servicing is required, a  key symbol appears at the LCD status indicator window.

LCD Indicator	Table status	Action to be implemented
No "key" symbol	Table ready	No action
Key symbols and message on LCD	Default detected	Press "OFF" and start again the hand control to see if default disappears.
Fixed "key" symbol	Service required.	Call FHSurgical service department. Read LCD message.



10.6 Service procedures :

a) Main hand control cord replacement :

- 1) Switch table off.
- 2) Disconnect the main hand control cord connector from the table connection panel (refer to chap. 5.8).
- 3) Disconnect the cord from the hand control, by unplugging connector.
- 4) Plug new cord to the hand control and listen to the “click”. Connect cord extremity to table connection panel (refer to chap. 5.8).
- 5) Switch table on by pressing any key of the hand control (except OFF). Check that all movements and LCD indicators are available.

b) Mains fuses replacement

- 1) Disconnect power cord from main socket and from table power panel.
- 2) Switch mains on-off switch off.
- 3) Prise cartridge out with a small screwdriver.
- 4) Replace the blown fuse with a sound one.
- 5) Push cartridge back. Connect mains power cord to table power panel and to the mains socket.
- 6) Switch mains on-off switch on. Check switch green light and the plug symbol  are on.

10.7 Recommended spare parts.

Description	Part Number	Quantity
Fuses set	342213555	1
Mains power cord USA	689400009	1
Mains power cord Europe	689400010	1
Main hand control cord	542200420	1
Main hand control	542200904	1
2"Tabletop fusion pad set	542200816	1
2"Leg fusion pad	542200241	1
2"Top fusion pad	542200240	1
2"Headrest fusion pad	542200239	1
3"Tabletop fusion pad set	542200817	1
3"Leg fusion pad	542200244	1
3"Top fusion pad	542200243	1
3"Headrest fusion pad	542200242	1



10.8 Inspection sheet

FHSurgical project # :

.....

Serial # :

Delivery date :

Part number :

Installation date :

Operating theater ref :

Put into service date :

Operating room ref :

After sales department stamp

Customer identification :

Inspections to be carried out before put into service

Inspection carried out

- | | |
|--|-----------------------------|
| 1- Mains power mode (symbol and switch on-off light). | ☐ OK |
| 2 - Battery power mode (symbol light). | ☐ OK |
| 3 - LCD message ("ready" when switching on, pressing any key more than 1 second) | ☐ OK |
| 4 - LCD display. | ☐ OK |
| 5 - Operation of each movement with load and for full stroke. | ☐ OK |
| 6 - Movement of the table on casters. | ☐ OK |
| 7 - Condition of the floor blocks | ☐ OK |
| 8 - Stability and floor locking. | ☐ OK |
| 9 - No hydraulic oil leaks. | ☐ OK |
| 10 - Hydraulic oil level. | ☐ OK |
| 11 - Table top horizontality when using level key. | ☐ OK |
| 12 - Operation of the locking devices for headrest and leg plate. | ☐ OK |
| 13 - General appearance and cleanliness. | ☐ OK |

Remarks :

Customer representative name and signature

FHSurgical representative name and signature



Our network is at your disposal if you have any queries.



FHSurgical

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